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FROM THE

UNITED STATES GOVERNMENT

THROUGH

DEPARTMENT OF COMMERCE AND LABO
BUREAU OF MANUFACTURES

1909 APRIL

MONTHLY
CONSULAR AND TRA
REPORTS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1909

DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

APRIL, 1909
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MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C. APRIL, 1909 **No. 343**

FOREIGN COMMERCE.

GERMANY.

SALES TO UNITED STATES.

REDUCED AMOUNT OF GOODS DECLARED THROUGH CONSULATES.

In transmitting a tabulated statement of the values of the declared exports from Germany to the United States by consular districts for the calendar years 1907 and 1908 and the general totals of the last five calendar years, Consul-General A. M. Thackara, of Berlin, makes the following comments:

The value of the declared exports for 1908, namely, $128,239,054, show a notable falling off as compared with the two previous years, being $31,153,286 less than in 1907 and $24,903,945 less than in 1906, or a decrease of 19.6 and 16.3 per cent, respectively. If there had not been a decided increase in the exports of German sugar to the United States during 1908, the decrease in the value of the exports of German goods to our country would have been still more marked. According to American official statistics, the value of the receipts of German sugar in the United States for the past calendar year was $7,220,340, as against $451,170 during the same period of 1907, an increase of $6,769,170.

The falling off of the German trade with the United States was principally due to the unfavorable American monetary conditions which prevailed during the greater part of the past year. The indications are that German-American trade is improving. During the month of December the value of the declared exports from this consulate-general was $5,201,010, as compared with $3,396,509 in 1907, an increase of $1,804,501.

The following is the retrospect for the last five calendar years:

Year.	Total export.	Increase or decrease over previous year.	
		Amount.	Per cent.
1908	$128,239,054	−$31,153,286	19.6
1907	159,392,340	+ 6,249,341	4.1
1906	153,142,999	+ 27,009,800	21.4
1905	126,133,199	+ 14,892,974	13.4
1904	111,240,225		

The declared exports from the various consular districts in Germany during the past year were as follows:

	1907.	1908.	Gain or loss.	Consulates abolished July 1, 1908.
Aix la Chapelle	$5,621,420	$3,306,654	−$2,314,765	Crefeld.
Barmen	10,309,800	7,659,181	− 2,650,619	Düsseldorf.
Berlin[a]	17,122,866	13,079,018	− 4,043,848	
Bremen[a]	2,808,775	1,765,458	− 1,043,317	
Breslau	1,823,543	1,005,263	− 818,280	
Brunswick	4,415,110	3,125,171	− 1,289,940	
Chemnitz	15,564,343	11,186,783	− 4,377,560	Annaberg and Glauchau.
Coburg[a]	7,110,383	5,224,193	− 1,886,190	Bamberg.
Cologne	4,380,150	2,969,490	− 1,410,660	
Dresden	5,768,620	5,017,158	− 751,462	Zittau.
Erfurt, formerly Weimar	1,442,677	881,865	− 560,813	
Frankfort[a]	12,999,067	10,548,062	− 2,451,005	Mayence.
Hamburg[a]	18,395,174	18,909,631	+ 514,457	
Hanover	1,983,152	1,347,968	− 635,184	
Kehl	3,402,680	2,230,422	− 1,172,258	Freiburg.
Leipzig[a]	11,158,380	8,869,648	− 2,288,732	
Magdeburg	9,698,972	8,871,240	− 827,742	
Mannheim[a]	5,571,621	4,568,956	− 1,002,665	
Munich	1,442,133	1,523,464	+ 81,331	
Nuremberg	7,211,374	5,156,788	− 2,054,586	
Plauen[a]	6,884,045	4,874 983	− 2,009,062	Eibenstock.
Stettin[a]	1,339,587	3,588,016	+ 2,248,429	
Stuttgart	2,938,468	2,529,653	− 408,815	
Total	159,892,840	128,239,065	−31,153,286	

[a] Including agencies.

TROPICAL PRODUCTS IN HAMBURG.

HOW CENTRAL AND SOUTH AMERICAN SHIPMENTS ARE HANDLED.

Replying to a correspondent, Consul-General Robert P. Skinner says that Hamburg is the most important market in the world for many classes of South and Central American exports and imports. He gives the following account of this trade:

The great firms in this city have so extensive a commercial organization that when business in staple products is under consideration their correspondents in South and Central America send their instructions to this city, where orders are either executed locally or transmitted to other great supply markets, such as Manchester, New York, and Paris. I supply below information in regard to certain West Indian and Central American products:

IVORY NUTS (COROSIS).

Savanilla ivory nuts.—The very small round nuts of very good quality in flesh are probably the best nuts. If not mixed with the red and unripe nuts, as now frequently occurs, the prices would be much higher than these quotations per 50 kilos (110 pounds): Good and dry quality, 19 to 20 marks ($4.52 to $4.76); fresh nuts, 16 to 18 marks ($3.80 to $4.28); mixed with red and unripe nuts, 15 to 18 marks ($3.57 to $4.28).

The middle sized round nuts are not as good in quality as the small nuts, and very often contain red nuts. The best of this quality are marked "P," and the prices for this grade are, according to dryness of the nuts, from 18 to 20 marks ($4.28 to $4.76). If they should be mixed with a lot of red nuts, the price would only be 15 to 17 marks ($3.57 to $4.04) per 50 kilos.

The large nuts, also round, very often contain large cracks, and vary in quality. The prices run, according to the dryness of the nuts, from 14 to 20 marks ($3.33 to $4.76). These nuts are generally shipped in bast bags of 50 kilos. All nuts are forwarded here on consignment and after they have been examined for dryness the prices are fixed.

Cartagena ivory nuts.—As compared with Colon nuts, these are about the poorest in quality. Nevertheless there are among these nuts also very good qualities if they are assorted right, when they become as valuable as the Tumaco nuts. The best brand shipped of these nuts is marked "H." The last lot which arrived here was half dry and was sold at 17½ marks ($4.16). The flesh of the regular quality of Cartagena nuts is cracked a great deal and of very coarse grade. These nuts grow in a swampy district and on arrival many have germinated, often to the extent of 20 per cent. The germinating nuts are of no value, because the flesh has changed their color.

As the unshelled nuts are always shipped in a very fresh condition, it happens that the bags are damaged a great deal when they arrive, and the loss of weight of 15 per cent has to be reckoned on. Lately they have begun to shell the nuts in the district of Cartagena, and shelled nuts must be watched for germinating kernels. The market quotations on December 17 were as follows: Regular Cartagenas, fresh, 12 to 13½ marks ($2.86 to $3.21); dry, 13½ to 16 marks ($3.21 to $3.80); "H," fresh, 15 to 16 marks ($3.57 to $3.80); dry, 16 to 18 marks ($3.80 to $4.28); shelled Cartagenas, regular, 21½ to 22½ marks ($5.12 to $5.36); "H," 23 to 25 marks ($5.47 to $5.95).

The Tumaco ivory nuts shipped from the West Coast are the best nuts which are shipped from Colombia. Unshelled nuts were worth, on December 17, between 17½ and 19 marks ($4.17 and $4.52); the flesh is of a very fine quality. The conditions on which the nuts are sold here are as follows: 3 per cent deduction, 1 per cent good weight; actual tare, 2½ per cent for dirt, 1 per cent for cash, and 0.3 mark (7 cents) per 100 kilos (220 pounds) for lighterage. These are all shipped on consignment, as nobody would buy them direct because of the risk.

ALLIGATOR SKINS.

The alligator skins from Colombia are from the so-called Cayman alligator and are imported here, if they do not contain holes. Only the belly (Bauch) or lower parts of the alligator are imported, as the back of the alligator can not be tanned as in the United States; all backs are shipped to the United States. The prices vary according to the size of the alligator: 11 feet long, $1.25 to $1.31; 10 feet, $1.14 to $1.20; 9 feet, 98 cents to $1.04; 8 feet, 86 cents to 92 cents; 7 feet, 75 cents to 81 cents; 6 feet, 70 cents to 76 cents; 5 feet, 60 cents to 65 cents; 4 feet, 50 cents to 56 cents.

The smallest size that is wanted here is 4 feet, and importers take skins up to 18 feet long. They are packed in barrels and must be salted. This article is also shipped here on consignment and a large business can be done, but all depends upon how the skins have been taken off the animals. Up to the present most skins have been imported here from Louisiana and Florida, and these are well-known qualities.

Only a few lots shipped from Central and South America have been disposed of here, because shippers there appear not to know how to handle the goods properly. In the first shipment received here from Central America there was not sufficient salt on the skins and over 45 per cent were damaged by moths. It is of the greatest importance that the skins be sufficiently salted.

COCOANUTS.

All cocoanuts are sold at public auctions in Hamburg. Such as arrive from Colombia, West Indies, and Africa are handled on consignment. Ceylon nuts are the best and command the highest prices. Trinidad nuts stand next in rank. Colombian nuts are poorly assorted, the bags are of unequal weight, and they are not much in favor. The Colombian nuts, sold at auctions, should command about: Extra large, 100 nuts weighing 175 pounds, 13 marks ($3.09); large nuts weighing 162 pounds per 100, 12 marks ($2.86); medium nuts weighing 144 pounds per 100, 10 marks ($2.38); small nuts weighing 112½ pounds per 100, 8 marks ($1.90).

When nuts are sold at auction within the time limit during which they are permitted to lie on the docks the cost of sale is about 7 per cent, but when they go into storage these costs increase to 10 per cent, inclusive of commission and all expenses.

Nuts are counted after being sold and only good nuts are accepted. It is best to ship cocoanuts before fresh fruit comes into market. Thereafter the demand closes entirely.

TORTOISE SHELLS.

Tortoise shells from Central America and the West Indies are all known as "West Indies shells." These goods are only accepted on consignment, as shippers do not assort them according to quality. One tortoise, for example, may supply two, three, or even more different grades of shell. The market is now quiet, and prices run from 15 to 25 marks ($3.57 to $5.95) per one-half kilo (1.10 pounds). Conditions of sale are as follows: The price is net per one-half kilo, from which is deducted 3 per cent—one-half of 1 per cent for good weight, 1 per cent for cash, and 1½ per cent for brokerage and assorting expenses. There is a demand for light yellow and light red-back pieces, and these command good prices.

CENTRAL AMERICAN WOOD.

The last shipments of mahogany and cedar logs from Colombia were of such poor quality that buyers are discouraged. As much as $31.63 to $38.93 has been paid for these logs, which turned out badly on account of worm holes. There seems to be a local overstock of mahogany of all kinds. Lignum-vitæ is little known. Ebony can be used in a very small way and prices are low. Boxwood, known as "Zapatero," is received here from Venezuela, but not from Colombia. Present approximate values for hardwoods are as follows: Mahogany, $19.46 to $29.15; lignum-vitæ, $7.29 to $12.16; ebony, $7.29 to $12.16, all per ton.

Balsam tolu is offered here by first hands at 1.7 marks (40 cents) per kilo, less 2½ per cent discount, packed in large tins of 20 kilos (44.4 pounds).

Ipecacuanha root, "Cartagena," is offered here by first hands at 9.5 marks ($2.26) per kilo, less 2½ per cent discount.

Gum copal, "Demarara," in case this article could also be exported from Colombia, the price here is from 120 marks ($28.56) to

140 marks ($33.32) per 100 kilos, whereas the ordinary Colombian quality is rated at 65 marks ($15.47) to 70 marks ($16.66) per 100 kilos, as to quality.

Prices are to be understood c. i. f. Hamburg, reweighed here.

PINE PRODUCTS, OILS, AND CAKE.

HAMBURG MARKETS FOR ROSIN, TURPENTINE, TALLOW, LARD, ETC.

In reply to a correspondent, Consul-General Skinner, under date of December 16, gives the following German market particulars concerning a number of American articles of export:

Rosin is free of duty in Germany. Prices quoted to-day, per 100 kilos (220 pounds) at Hamburg warehouses, are as follows: B, C, $3.45; D, $3.46; E, $3.47; F, $3.48; G, $3.50; H, $3.90; J, $4.49; K, $5.55; M, $6; N, $6.46; W, G, $6.68; W, $6.80. Hamburg is the chief importing center of Europe of these articles. Import statistics follow:

	1906.	1907.
Tons	68,658	79,496
Value	$3,326,352	$4,133,788
Average value per 220 pounds	$47.60	$52.36

No turpentine statistics are available. This article is on the German free list. To-day's prices are $13.68 per 220 pounds.

Tallow is dutiable at the rate of 59.5 cents per 220 pounds. To-day's prices are: Soap qualities, $14.75 to $15.35; edible, $15.47 to $16.18; fine, $16.42 to $19.04, all per 220 pounds. Hamburg importation statistics follow:

	1906.	1907.
Tons	6,762	7,315
Value	$1,015,346	$1,176,129
Average value per ton	$149.94	$161.84

Lard is dutiable at the general rate of $2.97 per 220 pounds, or the conventional rate of $2.38. American imports pay the lower rate named. To-day's Hamburg prices are: Spot, neutral, first quality, $29.75 to $30.94; seconds, known as "imitation neutral," $24.99 to $26.18 per 220 pounds. Hamburg importation statistics:

	1906.	1907.
Tons	78,478	58,554
Value	$15,407,682	$12,591,827
Average price per ton	$195.16	$214.20

Cotton and all other oil meal and cakes are free of duty in Germany. Hamburg importation statistics follow:

	1906.	1907.
Tons	118,581	139,245
Value	$4,146,424	$4,737,037
Average value per ton	$35.70	$33.32

German linseed cake is quoted to-day, for delivery at Hamburg from January to April, 1909, at $36.17 to $36.41 per ton; May, 1909, to May, 1910, $34.03 to $34.27 per ton. German cotton cake is quoted at $20.23 to $21.42, and American cake (ground) $31.41 to $30.94 if from New Orleans. No buyers are making offers at these prices, holding out for $29.75 to $30.22.

[The addresses of Hamburg importers of all the goods mentioned in Mr. Skinner's report are filed for public reference with the Bureau of Manufactures.]

ITALY.

TRADE RETURNS.

STATISTICS OF IMPORT AND EXPORT—AMERICAN COMMERCE.

From official statistics, Consul-General James A. Smith, of Genoa, says that it appears that the combined value of Italy's foreign trade, exclusive of precious metals, for the first ten months of 1908 was $735,129,000, of which $474,000,000 consisted of imports and $261,129,000 of exports. He analyzes the statistics as follows:

As a total, these figures show a gain of $1,640,500 over the corresponding period of the previous year. Imports increased by $12,931,000, but exports declined $11,290,500. In the order of their importance, the principal articles of import were as follows:

Articles.	Value.	Articles.	Value.
Cotton (raw)	$45,702,000	Seeds	$5,075,900
Machinery and railway vehicles	45,448,000	Oils (mineral)	4,921,500
Coal	41,302,000	Tobacco	4,439,000
Cereals	36,599,000	Phosphate (mineral)	4,361,800
Silk (raw)	20,728,000	Colors and varnishes	3,860,000
Lumber	19,801,800	Coffee	3,709,100
Wool and hair	15,690,900	Greases	3,512,600
Iron (scrap and pig)	9,302,600	Sulphate of copper	3,126,600
Hides (raw)	8,646,400	Wood pulp	2,933,600
Copper	7,025,200	Nitrate of soda (raw)	2,702,000
Stockfish	6,504,100	Precious stones	2,702,000
Silk cocoons	6,426,900	Jute (raw)	2,547,600
Horses	6,040,900	Rubber (crude)	2,509,000

GAINS AND LOSSES IN IMPORTS.

Comparing the results obtained with the same period of last year an increase, with the amount thereof, of imports is shown in the following articles: Cattle, $4,882,900; boilers, machinery and parts of, $4,709,200; horses, $3,609,100; wood (timber) for construction, $2,431,800; stockfish, $1,968,600; iron and steel works, $1,254,500; phosphate (mineral), $1,254,500; sulphate of copper, $1,158,800; cheese, $1,080,800; dried vegetables, $926,400; silk (raw), $926,400; copper, manufactures of, $926,400; heating apparatus, $907,100; oats, $714,100; wool, natural and washed, $694,800; glassware and bottles, $656,200.

Imports of the following articles showed a falling off to the extent given: Wheat, $10,383,400; cotton, $3,647,700; silk cocoons, $2,807,800; railway cars, $2,509,000; precious stones, $1,930,000; minerals, $1,312,400; iron scrap, $887,800; sugar, $829,900; iron and steel bars, $675,500; copper in pig, $656,200; automobiles, $636,900; iron railway ties, $579,000.

CHANGES IN EXPORTS.

There was a marked advance in the exportation of the following articles: Fruits (dried), $2,123,000; hides (raw), $1,814,200; wine in casks, $1,544,000; eggs, $1,058,900; automobiles, $1,312,400; silk, manufactures of, $829,900; human hair, $810,600; sulphur, $733,400; pneumatic tires, $733,400; vegetables, fresh, $636,900; grapes, fresh, $617,600; mother-of-pearl (raw and worked), $617,600; hemp (raw), $501,800; gloves (kid), $482,500; tobacco, manufactures of, $443,900.

The extent to which the exportation of certain principal articles declined is shown by the following: Silk (raw), $4,516,200; cotton, manufactures of, $3,088,000; fruits, fresh, $2,431,800; silk, dyed, $2,123,000; cattle, $1,852,800; fruits and preserved vegetables, $965,000; silk waste, $849,200; cheese, $772,000; coral, manufactures of, $772,000; furniture, $752,700; cotton thread, $752,700; seeds, $759,000.

The value of importation of precious metals during the period mentioned was $34,547,000, a decrease from the figures of the previous year of $26,248,000. Exports of these amounted to $2,952,900, an advance over the first ten months of 1907 of $2,123,000.

PURCHASES FROM UNITED STATES.

The imports into Italy from the United States for the nine months January 1 to September 30, 1908, were as follows:

Articles.	Value.	Articles.	Value.
Automobiles	$23,160	Machinery and parts of	$2,053,134
Cereals	5,126,466	Meats, salted, and bacon	1,357,948
Chemical products	561,823	Mineral oils	2,289,366
Coal	106,343	Mineral phosphate	893,976
Copper, brass, and bronze	4,561,450	Minerals, nonmetallic	214,230
Copper, sulphate of	176,016	Paraffin	455,480
Cotton	28,431,023	Rubber and gutta-percha, crude and worked	71,608
Cotton-seed oil	538,084	Scientific instruments	538,856
Fish	789,370	Staves	420,938
Greases	1,191,389	Tobacco	3,119,845
Hides and leather, and manufactures of	212,686	All other articles	2,466,154
Lard	415,336		
Lead, raw	372,297	Total	58,446,576
Lumber and timber	2,056,608		

SHIPMENTS TO UNITED STATES.

The exports from Italy to the United States for the nine months January 1 to September 30, 1908, were as follows:

Articles.	Value.	Articles.	Value.
Art, objects of	$268,463	Leather and manufactures of, other than shoes	$24,318
Automobiles	484,044	Machinery and parts of	15,440
Braids, straw	143,592	Marble and alabaster, raw and worked	551,401
Calcium citrate	764,473	Oils, essential, orange, lemon, bergamot	827,391
Cheese	1,421,445	Oil, olive	2,114,122
Chemical products	439,654	Oranges and lemons	1,367,405
Coral, raw and worked	78,165	Paper and books	172,156
Cotton, manufactures of	234,495	Silk, raw and waste	12,268,238
Flour and pastes	2,311,561	Silk, textiles and ribbons	606,213
Fruits and vegetables, preserved	221,757	Silk, other manufactures of	21,809
Fruits, dried	543,488	Sulphur	190,298
Furniture and other manufactures of wood	156,137	Tanning material, sumach	136,837
Gloves and shoes	56,163	Tartar, crude	467,832
Hair, horse	77,972	Tomato-paste	554,489
Hair, human	283,517	Wine	634,391
Hats	511,064	Wool and wool waste	46,320
Hemp, flax, and jute, manufactures of	128,152	All other articles	1,517,173
Hemp, raw and carded	601,967		
Hides, raw	389,088	Total	30,631,030

AUSTRIA.

AMERICAN PURCHASES.

DECLARED SHIPMENTS THROUGH CONSULATES FOR THREE YEARS.

The declared value of exports from the several consular districts of Austria, exclusive of Hungary, to the United States during the calendar years 1906, 1907, and 1908 is given by Consul-General W. A. Rublee, of Vienna, in the following table:

District.	1906.	1907.	1908.
Carlsbad	$1,649,203	$1,663,805	$1,179,848
Prague	2,323,186	3,214,850	3,590,177
Reichenberg	3,187,876	3,330,081	2,201,580
Trieste	1,806,368	1,030,765	1,027,198
Vienna	6,189,124	7,194,626	5,060,090
Total	15,155,757	16,434,127	13,058,893

The decrease during 1908, as compared with 1907, amounting to $3,375,284, reduces the value of exports to about what it was in 1905.

FINLAND.

INCREASED TRADE.

EXTENT OF FOREIGN COMMERCE AND POPULATION STATISTICS.

Official statistical data covering the commerce of Finland with Russia and foreign countries during 1907 recently published have been summarized by Consul James W. Ragsdale, of St. Petersburg, as follows:

The total figure of exports and imports amounts to 644,400,000 marks (Finnish mark=19.3 cents), showing an increase of 50,000,000 against 1906. The customs dues amounted to 50,473,702 marks, against 47,770,889 marks in 1906. The total exports from Finland amounted to 265,400,000 marks, and the imports to 379,000,000 marks.

Germany occupies first place in the commercial relations with Finland, which imported German goods to the amount of 152,900,000 marks and exported Finnish raw materials to the amount of 30,500,000 marks. Next comes Russia, which imported to the amount of 110,800,000 marks (mostly cereals and raw materials), and exported to the amount of 72,900,000 rubles (chiefly manufactured goods). Other imports and exports of Finland are shown by the following table:

	Exported to.	Imported from.		Exported to.	Imported from.
	Marks.	*Marks.*		*Marks.*	*Marks.*
Great Britain	84,000,000	45,000,000	Spain	7,400,000	2,100,000
France	25,500,000	4,500,000	Sweden	9,000,000	19,400,000
Belgium	12,000,000	8,000,000	Denmark	8,800,000	26,800,000

TURKEY.

COMMERCE AT SALONIKI.

MODERN FACILITIES FOR DOING BUSINESS AT TURKISH PORT.

Consul Evan E. Young supplies the following commercial information concerning Saloniki, one of Turkey's leading ports of entry:

Saloniki, a port city on the gulf of the same name, has a population of some 140,000, divided among the various nationalities represented here as follows: Jews, 80,000; Turks, including the army, 20,000; Greeks, 20,000; Bulgarians, 5,000; foreigners and various nationalities, 15,000. Commercially, the city is going ahead with rapid strides, the volume of trade as shown by the statistics of the export and import trade increasing yearly.

Saloniki is not difficult of access to Europeans; a junction railroad line connects this city with Constantinople, trains making the trip, which takes about twenty-four hours, three times weekly. The Chemins de Fer Orienteaux connect Saloniki by rail with Budapest, where one can change for Berlin and Hamburg or continue to Paris through Vienna. The trip from Hamburg to Saloniki by rail takes about two and one-half days, and from Paris the time is about the same. A junction line also runs from Saloniki to Monastir, a city in the interior of Macedonia. Regular passenger and freight steamers sailing from Naples, Genoa, Trieste, and Piræus for Constantinople and ports on the Black Sea always call at Saloniki.

The banking facilities of the place are adequate: The Imperial Ottoman, Banque d'Orient, Banque de Mytilene, and Banque d'Athène all have branches at this place, while the main offices of the Banque d'Salonique are located in this city. American manufacturers and exporters desiring information in reference to the financial standing and reliability of local houses can easily secure the same by a letter of inquiry to any of these banks.

TROLLEYS AND POST-OFFICES—FOREIGN TRADE.

Electric trams have recently been installed by a private company (the cars being manufactured by a Philadelphia concern), while numerous cabs and carriages are always to be found. The principal streets of the city are paved and kept in a good state of repair. In the way of postal facilities besides the Turkish, the French, English, Italian, and Austrian Governments have post-offices at this place.

The principal exports from this district are tobacco, skins, opium, cheese, wool, and cocoons. Among the chief imports should be mentioned cotton and woolen goods, cotton and oleo oil, starch, sugar, flour, shoes, and rubber overshoes.

In addition to tobacco, for the quality of which this section is noted, the principal agricultural crops are wheat, corn, barley, cotton, and opium. There are no factories of importance in operation here other than several cotton-spinning plants whose output is consumed by local demands.

A careful investigation recently made by this office into the condition of American trade convinces me that a good opening awaits American manufacturers and exporters. Persistent, intelligent interest and effort are needed. The matter of the possible extension and increase of our trade in this district is receiving the careful attention of this office, and will be treated at greater length in special reports to be submitted from time to time.

CHINA.

TRADE OF CHEFOO.

STATISTICS SHOW THE RELATIVE STANDING OF AMERICAN GOODS.

Vice-Consul C. L. L. Williams sends from Chefoo the following report prepared by A. W. Gilbert of the consulate there, on the trade of that northern Chinese port:

The returns of the imperial maritime customs for 1907 show that Chefoo deals in 82 of the 149 articles of export; that Chefoo ranks tenth in value of original export from each district, exporting about 2¼ per cent of the total; and ranks twelfth in value of direct foreign trade, sending out about 1½ per cent of the total foreign exports.

Of the 257 articles imported from foreign countries, Chefoo receives 241 and ranks twelfth—with a receipt of about 1½ per cent of the total. In view of the numerous inquiries received as to the import and export market, a compilation has been carefully prepared. [This list of articles is on file for reference at the Bureau of Manufactures.]

The export returns for the second quarter of 1908 show a good increase over 1907 in the export of silk and vermicelli, the latter being a native product (indigenous) of Chefoo. In imports, opium fell off over 60 per cent when compared with the corresponding quarter of 1907. American shirtings, jeans, and oil show a continued steady growth, as have also Japanese drills, cotton yarn, and matches, Japan having no competitor in matches or coal.

Taken as a whole, however, the quarter's trade was weaker than in 1907; but the recent visit of the governor has created fresh hopes of some definite steps being taken in the near future toward railway communication with the interior.

The principal articles imported from foreign countries and Chinese ports during the quarter ending June, 1908, in comparison with the same period in previous years, were as follows:

Description of goods.	1905.	1906.	1907.	1908.
COTTON GOODS.				
Shirtings, gray, plain:				
American ....pieces..	15,655	5,140	8,940	10,875
English ....do....	25,265	16,869	11,645	17,830
Japanese ....do....	180	300	60	180
Sheetings, gray, plain:				
American ....do....	177,925	194,105	177,847	100,091
English ....do....	10,670	14,107	10,382	12,110
Indian ....do....	1,000	580	1,200	300
Japanese ....do....	19,980	8,600	4,980	500
Shirtings, white, plain:				
American ....do....	....	....	....	100
Dutch ....do....	1,408	3,012	350	370
English ....do....	69,000	73,480	49,424	57,208
Drills:				
American ....do....	59,170	37,673	19,095	9,375
Dutch ....do....	490	130	340	....
English ....do....	815	4,205	5,205	996
Japanese ....do....	400	2,380	1,000	6,940
Jeans:				
American ....do....	1,800	1,920	2,060	2,845
Dutch ....do....	100	1,400	30	1,330
English ....do....	14,560	17,835	15,600	15,871
T-cloths:				
English ....do....	16,185	32,843	26,426	19,592
Indian ....do....	....	750	130	100
Japanese ....do....	11,490	27,039	16,498	10,560
Cambrics, lawns, and muslins ....do....	11,326	16,350	14,920	13,587
Chintzes and plain cotton prints ....do....	16,179	14,531	11,468	4,762
Printed drills, furnitures, and twills ....do....	4,927	4,009	780	1,052

Description of goods.	1905.	1906.	1907.	1908.
COTTON GOODS—continued.				
Printed T-cloths.....pieces..	5,520	7,031	3,426	2,141
Cotton:				
Italians, plain, fast black.....do....	14,645	22,694	10,673	4,676
Italians, plain, colored.....do....	19,277	20,594	19,341	18,029
Lastings, plain.....do....	1.664	1,254	730	70
Italians, figured.....do....	10,824	16,625	10,744	11,194
Lastings, figured.....do....	10,495	9,986	4,978	4,612
Dyed shirtings:				
Figured.....do....	1,672	934	350	521
Plain.....do....	2,119	1,521	724	825
Dyed Turkey-red cambrics.....do....	6,740	10,244	26,269	20,768
Dyed Turkey-red shirtings.....do....	16,869	17,498	2,050	4,530
Cotton Spanish stripes.....do....	294	440	542	122
Velvets and velveteens.....yards..	34,617	45,988	36,085	21,533
Handkerchiefs.....dozens..	17,649	5,707	5,711	11,365
Handkerchiefs, Japanese.....do....	1,856	738	285	320
Towels.....do....	34,552	28,815	26,682	17,711
Towels, Japanese.....do....	13,185	14,811	7,010	5,523
Cotton yarn:				
English.....pounds..	51,733	18,400	20,933	320
Indian.....do....	1,165,933	704,667	808,800	402,800
Japanese.....do....	2,898,000	3,516,933	1,405,833	2,285,067
CHINESE COTTON GOODS.[a]				
Sheetings, Shanghai.....pieces..	700	....	360	5,680
Cotton yarn.....pounds..	535,067	326,133	734,333	517,733
WOOLEN AND COTTON MIXTURES.				
Union Italian cloth, plain and figured.....pieces..	517	1,060	90	....
WOOLEN GOODS.				
Camlets, English.....pieces..	140	60	96	47
Cloth:				
Broad, medium, and habit.....yards..	4;156	5,064	3,737	2,975
Russian.....do....	1,368	391	397	144
Lastings, plain, figured, and creped.....pieces..	1,338	891	100	250
Long ells.....do....	1,420	1,360	635	465
Spanish stripes.....yards..	7,663	351	646	3,876
METALS.				
Iron:				
Bars.....pounds..	907,867	1,138,933	98,600	241,733
Nail rod.....do....	1,160,933	1,724,267	815,867	528,667
Sheets and plates.....do....	297,733	233,800	316,933	175,467
Wire.....do....	203,467	221,733	155,067	89,600
Old.....do....	8,769,733	8,661,867	2,943,867	2,731,733
Lead, in pigs.....do....	165,333	300,133	133,600	174,983
Quicksilver.....do....	6,933	7,067	22,800	4,400
Steel:				
Foreign.....do....	502,933	577,333	281,333	344,667
Native.....do....	82,933	13,200	3,733	13,467
Tin, slabs, and tinned plates.....do....	207,600	165,767	88,800	61,200
White metal.....do....	8,533	4,000	4,800	4,400
FOREIGN SUNDRIES.				
Basins:				
Enameled.....dozens..	3,326	6,246	3,590	3,029
Tin.....gross..	10,432	956	589	590
Buttons, brass and fancy.....do....	26,315	19,645	14,315	7,810
Candles.....pounds..	255,333	163,200	123,867	75,600
Coal:				
Cardiff.....tons..	....	....	3,751	....
Japan.....do....	17,781	30,336	27,818	23,143
Dyes.....value in gold..	$60,951	$110,905	$19,534	$26,670
Flour.....pounds..	838,400	1,765,600	7,634,400	4,707,467
Ginseng, Korean.....do....	107,211	....	27	....
Indigo, liquid.....do....	989,067	1,066,533	795,600	276,133
Matches.....gross..	....	390	150	460
Matches, Japan.....mille..	781,978	475,589	336,548	805,522
Needles.....do....	76,368	46,790	25,300	21,532
Kerosene oil:				
American.....gallons..	521,500	1,872,400	1,351,690	3,101,190
Russian.....do....	346,900	195,750	....	....
Paper.....pounds..	594,800	764,267	320,533	153,467
Pepper, black.....do....	191,067	105,867	55,067	178,133
Rice.....do....	4,933	11,200	1,068,000	5,483,733
Sapanwood.....do....	120,000	25,433	106,850	13,200
Sugar:				
Brown and white.....do....	12,779,467	15,176,543	6,366,800	7,971,300
Refined.....do....	4,665,067	2,665,733	3,450,000	1,966,400
Candy.....do....	1,078,933	877,333	644,667	453,600

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[a] Steam factory products.

CHINESE IMPORT TRADE.

STATISTICS SHOW AN INCREASE IN FOREIGN COMMERCE.

The Chinese imperial maritime customs have published the trade returns for the third quarter (July–September) of 1908. The total revenue of the 40 ports amounted to 8,552,712 haikwan or customs taels (now worth about 61 cents each), an increase of 137,976 taels, compared with the corresponding quarter of the previous year, when 39 ports were included, but a decrease of 782,966 taels compared with the third quarter of 1906. It is a welcome sign to note that Shanghai's revenue in the period under review shows a slight increase, and good increases are also exhibited at Antung, Dairen, Newchwang, Kiao-chow, Chungking, Changsha, Hankow, Chinkiang, Swatow, Canton, and Wuchow. The principal ports with a decline are Tientsin, Kiukiang, Nanking, Hangchow, Foochow, and Amoy. The shipping tonnage entered and cleared is practically stationary at something over ten and a half millions. Opium imports increased 3,700 piculs (picul=133⅓ pounds). Regarding yarn imports, the Indian article alone shows an increase of 23,000 piculs, while the Japanese trade fell 74,000 and the British 7,000 piculs. American kerosene oil supplies rose from 32,000,000 to the enormous total of 54,000,000 gallons; Sumatra oil imports increased 4,000,000, while the Borneo article declined to the extent of 3,000,000 gallons. Tea exports fell 14,000 piculs, and silk increased 16,000 piculs.

Ports.	Revenue.	Shipping entered.	Ports.	Revenue.	Shipping entered.
	Taels.	*Tons.*		*Taels.*	*Tons.*
Antung	29,771	41,495	Wenchow	24,058	15,343
Tatungkow	859	190	Santuao	49,710	9,648
Dairen	72,887	297,406	Foochow	252,490	175,865
Newchwang	229,599	197,349	Amoy	208,004	306,285
Chinwangtao	25,068	58,461	Swatow	391,392	380,341
Tientsin	591,966	282,143	Canton	880,423	650,927
Chefoo	169,776	543,233	Kongmoon	39,044	125,087
Kiao-chow	229,532	126,203	Samshui	63,699	138,001
Chungking	132,883	10,063	Wuchow	156,059	63,252
Ichang	6,484	64,500	Nanning	16,786	2,635
Shasi	6,214	91,763	Kiungchow	76,400	119,461
Changsha	61,362	101,116	Pakhoi	39,747	36,206
Yochow	11,948	217,671	Kowloon	80,486	....
Hankow	868,514	673,426	Lappa	77,119	108,564
Kiukiang	221,673	802,585	Lungchow	1,347	552
Wuhu	184,468	816,688	Mengtsz	50,483	....
Nanking	32,271	777,962	Szemao	281	....
Chinkiang	343,902	895,509	Tengyueh	6,946	....
Shanghai	2,407,964	2,159,859			
Soochow	36,919	40,426	Total	8,552,712	10,651,226
Hangchow	242,185	89,029	Total in 1907	8,414,736	10,722,885
Ningpo	231,993	231,982			

CUBA.

TRADE CONDITIONS.

EACH SECTION OF THE ISLAND SHOULD BE EXPLOITED.

Vice-Consul H. M. Wolcott, of Santiago de Cuba, writes as follows concerning the necessity of canvassing the trade of the island by districts instead of confining all efforts therefor to Habana:

A writer in the January number of an American trade publication makes the following statement: "Commercially speaking, Habana is the last and only word in connection with business in Cuba."

While it is not thought that the foregoing statement represents the general opinion of American exporters, it is believed that they give too little attention to the trade of this section of Cuba. Of course, many times it is not possible for salesmen who visit Habana to make the trip across the island, but they should not be deterred in so doing by the erroneous belief that the trade of the provincial cities is not worthy of their attention, nor rest secure in the thought that they have accomplished their mission in Cuba when they have visited Habana and established general agencies there. Salesmen representing European firms come to this city and spend a week or more in studying trade conditions, thoroughly informing themselves as to local demands and establishing trade connections.

While it is true that a considerable part of the trade of Cuba is controlled by Habana firms, it is not, by any means, true of all lines, and it is believed that much valuable trade is lost to American manufacturers by reason of the fact that when Habana is canvassed by their salesmen they consider that a trip over the rest of the island is not worth their while. According to statistics obtained from the local custom-house, there was imported into this port during 1907 over $1,600,000 worth of textiles alone, of which only about 7 per cent came from the United States. It would seem that more of this valuable trade should have been secured by American manufacturers.

This section of Cuba is at least keeping pace with the rest of the island in commercial growth, and American exporters will do well not to neglect the trade here. American salesmen who visit Santiago are urged to call upon the consul, who will render them all assistance consistent with the duties of his office.

BRAZIL.

DECREASED TRADE.

REDUCTION IN BOTH IMPORTS AND EXPORTS OF THE COUNTRY.

The foreign trade of Brazil for the first ten months of 1908 shows more of a decrease both in imports and exports than even the first three months' figures have shown. In making this statement, Consul-General George E. Anderson, of Rio de Janeiro, says:

The Brazilian bureau of statistics has issued a brief memorandum, without comment, giving the total of the figures for imports compared with the ten-month record of the two years previous and the figures for exports covering the principal classes of articles sent out of the country. The total imports for the year up to the end of October amount to $144,829,195, as compared with $161,529,760 and $127,130,351 in the same periods of 1907 and 1906. The total exports for the ten months of 1908 amounted to $166,485,972, as compared with $227,681,344 and $195,923,060 in 1907 and 1906. The balance of trade in favor of Brazil, therefore, for the ten months of the year 1908 amounts to $21,656,777, as compared with $66,151,584 in 1907 and $68,792,709 in 1906, such balances representing the fund from which or by which Brazil pays its foreign obligations, including interest on its national and state debts.

THE AMERICAN SALES LOSSES.

In the matter of imports no details are given, but from current business knowledge it seems that the falling off has been fairly general both in the nature of the imports and in the countries from which the imports come. From the United States there has been a large falling off in imports of flour, cotton goods, electrical goods, general machinery, building hardware, sewing machines, lard, turpentine, and lumber, the falling off in lard being exceptionally great, as was the increase in the imports of that commodity in 1907 over the year before. Perhaps the most significant fact of the import situation is that while there has been a decrease in the imports in the ten months of $16,700,565 there was practically no decrease for the first four months of the year and actually a small increase for the first three months. The loss therefore occurred in the six months ended October 31 and represents constantly increasing losses in the import trade. Inasmuch as the currency of Brazil depends upon a safe balance between imports and much larger exports, this decrease in imports, while discouraging to Brazilian trade from one view point, is in itself cause for congratulation lest it bring about unfavorable changes in the exchange value of Brazilian money.

CLASSIFICATION OF EXPORTS—EFFECT ON EXCHANGE.

In the way of exports there has been a decrease along all the line with the exception of the single material item of cocoa. For many years from 85 to 95 per cent of Brazil's total exports have come in seven articles. There is little change in this record shown in the figures for 1908. The exports, classed by principal items, compared with those of the same period of 1907, are as follows:

Articles.	1907.	1908.	Articles.	1907.	1908.
Coffee	$118,628,952	$87,200,668	Cocoa	$7,562,037	$8,156,128
Rubber	54,390,902	40,418,085	Cotton	7,757,627	725,312
Tobacco	6,135,206	3,948,851	Various	26,206,064	19,441,686
Sugar	609,868	482,105			
Herva Maté	6,390,688	6,113,137	Total	227,681,344	166,485,972

While the falling off in the shipments of coffee and rubber have caused the most comment, and, in practical effects, the most disturbance in Brazilian finance, the rate of loss in those two principal items is not as great as that of several other items which represent the principal crops in several important districts of the country. The loss in cotton, for example, is immensely greater.

Imports of gold in connection with currency matters amounted to about $500,000 in the ten months of 1908, as compared with $20,400,000 in the 1907 ten months. This represents the changed position of the Conversion Bureau, upon whose operation the present value of the Brazilian milreis is based. The bureau is constantly losing its stock of gold in its automatic operation to maintain the exchange value of the milreis at 15 pence, but it is generally felt that unless there is some unforseen turn of affairs the value of the currency can be held at that point.

TRADE EXTENSION.

FOREIGN MAIL ORDERS.

GERMANY.

A MEANS OF SECURING TRADE STILL OPEN TO AMERICAN HOUSES.

Consul-General Robert P. Skinner writes from Hamburg that the success or failure of an American department store, in seeking to build up a mail-order business in Germany, will depend upon the amount of persistence back of the effort, advertising, the reputation of the concern, and its ability to meet competition. Concerning the extent of this business and how Americans may secure it, Mr. Skinner says:

Numerous English supply houses, especially the "army and navy" and the "civil service" cooperative institutions, do a large mail-order business all over the world, as do also the two famous Parisian department stores. Hitherto American firms have made no very serious attempts along the same lines in Europe, for the reason, probably, that the nonexistence of parcel-post conventions would have rendered any such trade enterprise sterile.

It is no longer true that one can not ship small parcels by post from the United States to many countries, including Germany. It is unfortunate, however, that no arrangement has been made for shipping such parcels on the c. o. d. basis. The objections which many Americans feel to receiving goods to be paid on delivery does not prevail abroad; on the contrary, it is a convenience to both buyer and seller to have the entire transaction closed on the delivery of the goods, and it occurs to me that American department stores interested in foreign trade should encourage their government to give them the same facilities now enjoyed by their foreign competitors.

Germany, for example, has parcels-post arrangements with nearly every important country in the world, and, with the exception of the United States and South America, these arrangements include provisions for collection upon delivery of goods up to $200 in most cases and $100 in others. These privileges help to build up trade, and have in fact done so. In 1905 France alone exported goods by parcels post to the value of francs 337,600,000 ($65,156,800). European merchants thus export without difficulties to the most remote countries, having at their command facilities which American merchants do not enjoy in the same measure and which private capital can not supply.

CONVENIENCE OF THE PARCELS POST.

Fortunately, American exporters can now ship small parcels by post to Germany, but must collect for the same by independent processes. Department-store managers will find it profitable to familiarize themselves with the exact conditions which meet a parcel, both when it leaves the United States and when it arrives in Germany.

Such shipments from the United States, must not weigh more than 11 pounds, must not exceed 3½ feet in length or 6 feet length and girth combined, and must not exceed $50 in value.

Post parcels must not be posted in letter boxes, but must be taken to the post-office. Every parcel must bear a complete and legible address; be marked conspicuously "parcel post" and bear the name and address of sender. Packages must be securely packed, but in such a way that they can be opened without damaging covers, in order that contents shall be easily examined by postmasters and customs officials. Postage must be fully prepaid, and, except to a few countries, parcels can be registered. To every parcel must be attached a "customs declaration" (Form No. 4402) properly filled out and accurately describing the contents. The cost of shipping these parcels to Germany is 12 cents for a parcel not exceeding one pound in weight, and 12 cents for every additional pound or fraction of a pound. So much for the American shipping regulations.

HOW CUSTOMS DUTIES ARE PAID.

Post parcels arriving here from a foreign country are not directly delivered to the addressee but are kept at the post custom-house. The addressee is informed of the arrival of the package, a mail carrier delivering to him the original "Bulletin d'Expédition," to which the local post-office has attached a slip, stating that the package may either be called for within two days by the addressee, who in such case must attend to the customs clearance himself, or that upon request the latter may be done by the postal authorities, for which a fee of 20 pfennigs (5 cents) is charged. It is also mentioned on said slip that if the customs formalities are desired to be attended to by the post, the latter assumes no responsibility. The duty expended is collected upon delivery of the parcel to the addressee.

Upon presenting the above-mentioned "Bulletin d'Expédition," the package is delivered to the addressee, who has to open it in presence of a customs officer, and the duty is paid there.

It is very generally agreed by unprejudiced observers that American department stores are highly developed establishments in every way. American merchants buy well, turn over their stocks rapidly, and not infrequently receive imported goods of the better class manufactured especially for the American market and superior to the articles in the same lines shown in the countries of production. Finally American prices are low, both in foreign and domestic wares. It is natural to believe that Americans residing abroad, or persons who have lived in the United States, would be the first to become interested in an attempt to do a foreign mail-order business by an American firm. To test the matter practically, I send herewith a very brief list [obtainable from the Bureau of Manufactures] of some persons now residing in Hamburg, who come within the foregoing categories.

BREMEN.

REQUIREMENTS NEEDED TO SECURE THE TRADE.

In reply to an inquiry Consul William T. Fee reports that there are only a few Americans residing at Bremen, and writes as follows concerning the prospects of doing a mail-order business:

In order to reach the Germans it is absolutely necessary to have the catalogue published in the German language, giving German values and measures (metric), but the greatest hindrance will be caused by the customs. If the American home office deals directly with the private customers, the latter will be compelled to attend to the fulfillment of the customs requirements, and while buyers of larger quantities may have no objections against doing this, the inconvenience will bar out all smaller orders in the course of time. It would therefore be advantageous to establish a branch house either at Bremen or at Hamburg through which all orders are to be effectuated. This would enable a representative also to keep in close touch with the demands of the public.

American houses will have to encounter sharp competition from the large department stores at Berlin, Hamburg, Cologne, and other cities, all of which are doing an extensive mail-order business. Although German goods may be sold in foreign countries sometimes at very low prices, the home prices are kept up at a good standard by the united efforts of the manufacturers and the distributing merchants. Therefore there is still a good chance for the introduction of American goods if the difficulties pointed out are overcome, the more so as American goods are very much liked here and they draw comparatively high prices.

[List of Americans residing at Bremen, to whom catalogues may be sent, is on file in the Bureau of Manufactures.]

MAGDEBURG.

HOW AMERICAN TRADE BY MAIL ORDER MAY BE SECURED.

Consul Frank S. Hannah, of Magdeburg, in reporting as follows on the difficulties to be overcome in securing an American trade by mail order in his district, points out how a mail-order trade for all Germany may be built up:

In reference to the extension of mail-order trade in this district, I do not believe a plan of dealing directly with the individuals and homes through catalogue, a copy of which was forwarded to this consulate, would meet with the success anticipated, for several reasons. The very people to be reached are not capable of reading the English language, and the prices in dollars, and weights in pounds, as well as measurements in yards, etc., would be meaningless to them. If any of the goods are manufactured in this district, the addition of the ocean freight and double duties would make the sale of such commodities here impossible.

Large mail-order houses, such as those in the States, are unknown here, although some of the larger department stores in Berlin, Vienna, etc., are just beginning to enter this field.

HOW A MAIL-ORDER TRADE CAN BE BUILT UP.

It is my opinion that, while a plan of covering the field from the American house is not feasible, a large American house, by establishing a branch house in one of the larger cities, say Berlin, and complying with the German conditions of trade, could, with push and enterprise, develop a splendid business. The postal service is very efficient in Germany, and this in itself would be of great assistance. At the present, houses dealing in novelties or other special lines carry on their business almost entirely through the mail, and there seems to be no reason why this should not be carried further and be extended to a business similar to that of a large department store. Department stores are not very old in Germany, but are meeting with great success, even in the smaller places. People are pleased with the one-price-for-all idea and also their ability to purchase different commodities in the same store. This is proved by the fact that all over Germany organizations of small dealers are being formed to combat these department stores, which are here known as "Waarenhaeuser." It is only a question of time until the large department stores here will adopt this mail-order system, and the present is certainly the time for American houses to enter the field if they expect to meet success.

The best, and possibly only, way to secure the information necessary to establish such an undertaking would be to send a representative to Berlin who is not only conversant with every detail of an elaborate organization but who is also in a position, through his mastery of the German language, etc., to acquaint himself with equal thoroughness with the conditions here. He could call for assistance from our consuls, and could avail himself of the services of some of the American lawyers resident in Berlin in regard to the legal requirements for organization, etc.

This plan of organization would reach the German trade, which is the only thing worthy of consideration, as the number of resident Americans here is comparatively very small.

FRANCE.

EXCELLENT MARKET FOR A VARIETY OF AMERICAN GOODS.

Consul Louis Goldschmidt, of Nantes, makes the following report regarding the sale of American goods in France:

The time has arrived when American retail merchants may attempt to secure a share of the market in France as well as some other European countries. The time is particularly propitious in regard to France, owing to the recent enactment of a parcels-post convention between this country and the United States, which facilitates transportation of smaller parcels and renders the expense of such transportation slight on light-weight goods. French merchants, particularly those of Paris, fully realize the importance of this convention, and are preparing to enlarge their business with American purchasers considerably.

It only depends on intelligent effort on the part of American merchants whether they shall successfully enter this field with American-made goods. The first and most important part is to reach the customer here, and to reach him with a catalogue which he may understand, viz, with a catalogue printed in French, with prices in francs and centimes, and weights in the metric system. The American merchant can not expect to sell in France such articles as are imported from abroad into the United States, and which, after paying tariff duties there, would again be subject to such duties here, and consequently could not compete with articles offered directly by the respective producing countries of Europe.

There are numerous articles in which America leads as to prices, quality, and style, and with such articles they may attempt to do business. The following classes of goods should find a sale: Furs of certain kinds, particularly those of American origin; women's tailor-made garments; shirt waists in all sorts of material; flannelette night gowns and pajamas; union suits for men, women, and children, particularly those made of cotton or mercerized cotton; cotton-knit underwear; ladies' corsets of the popular-priced kind; certain kinds of boys' clothing; men's bath robes of cotton; men's outing shirts, belts, and neckwear; all sorts of boots, shoes, rubbers, and overshoes for men, women, and children; cotton textiles of all kinds, particularly those for household use; sewing machines; American watches made of nickel; certain kinds of American cutlery; photographic apparatus; books, pianos, phonographs, bicycles, rifles, revolvers, boys' toy rifles; sporting goods of all kinds; soap, perfumery, and patent toilet preparations; articles of rubber, such as water bags, syringes, etc.; American cut-glass ware, baby carriages, leather traveling bags, dress-suit cases, trunks; American small ware, commonly called "Yankee notions;" household furniture, stoves, and heaters of various kinds; apparatus for the bath and toilet room; ice chests, refrigerators, meat choppers, and certain kinds of kitchen articles; carpet sweepers, ice-cream freezers, and cheap furniture for household or office use.

Many of the articles mentioned in the foregoing list are readily found on sale in the local stores, but this would not prevent such being sold directly to the consumer here.

The time is ripe for the sale in Europe of all sorts of American cotton and knit goods, underwear, etc., owing to their cheapness and superior quality. [List of Americans and English speaking residents in Nantes consular district is filed in the Bureau of Manufactures.]

MARSEILLES.

HOW A MAIL-ORDER BUSINESS MAY BE BUILT UP.

Consul-General Horace Lee Washington, of Marseilles, reports as follows on the difficulties which must be overcome by American manufacturers in order to successfully reach that market by mail orders:

An interesting illustrated catalogue of over 400 pages, describing men's, women's, and children's wearing apparel and housefurnishings has been received by this office with an inquiry as to the prospect of introducing through such medium a mail-order business among American residents or the native population in this section of France.

With regard to the American residents, while doubtless a few occasionally would avail themselves of the opportunity to order direct from a well-known American firm, yet their number in this neighborhood is too limited to offer a general business field. The practical consideration is, whether a mail-order business may be built up among the French through catalogues, as suggested. It certainly can not be by such an example as the particular catalogue before me—although it is attractive in its get-up, is classified in a practical manner, and profusely illustrated with clear cuts that show the various articles well in detail—but unfortunately the text is English, dimensions are in inches, and prices in dollars and cents.

FRENCH VERSUS AMERICAN CATALOGUES.

In competition with this method of instituting business are the catalogues scattered broadcast throughout France by its great department stores. These are also illustrated, samples of cloths, linen, draperies, etc., are freely furnished, and they are published in terms, prices, and text with which the people are familiar. This latter is an almost overwhelming advantage when business is sought, not among business firms, who might possibly investigate the contents of a pamphlet in a foreign language (although experience shows the contrary, speaking generally), but among individuals who certainly will not do so when small personal or family orders are to be made.

As a first condition, then, in seeking to build up a mail-order business, the catalogue, which is the commercial traveler in this case, must "speak" the language and use recognized terms. The greater length of time required, as compared with filling orders sent to Paris houses, is increased if the necessity arises of exchanging articles; the added complication (to the individual not accustomed to deal in foreign payment) of transmitting in a foreign currency, and the necessity of visiting the customs, all suggest that very distinct advantages to be obtained must be made clear, if any trade is to result. To the end of furnishing a working comparison with the French mail-order market as approached by native business houses, a recent catalogue of one of the best-known French firms is transmitted. [Copy of catalogue on file in the Bureau of Manufactures.] This firm offers a similar class of merchandise to that covered by the catalogue of the American firm sent to this office.

It is superfluous to mention that the duty and cost of transportation must be taken into account when comparing prices, and that the duty on most articles is assessed at the maximum of the tariff.

UNITED KINGDOM.

AMERICAN GOODS WHICH COULD FIND READY SALE IN SWANSEA.

Consul Jesse H. Johnson, of Swansea, in reply to the inquiry as to building up a mail order trade in Wales, furnishes the following information:

Such things as ready-made clothing, both for men and women, including all cotton and woolen goods, can be bought cheaper here than in New York. As for shoes, for both men and women, there could be a good trade worked up here for certain kinds, concerning which a previous report was made from this consulate. Many other things mentioned in the catalogue submitted might find sale here, viz, sewing machines, clocks and watches, jewelry, toilet goods, musical instruments, bicycles, toys, etc. Sewing machines would sell here readily, for there is nothing of the kind sold here at anything near the price given in the catalogue. There are at least 100,000 working people who do their trading in Swansea, and most of these work in mines and factories, and get their pay once a week. Instead of dealing directly with the merchants of Swansea, American exporters and manufacturers make the mistake of dealing with them through agents in Liverpool and London. [A list of the principal houses of Swansea, transmitted by Consul Johnson, is on file in the Bureau of Manufactures.]

TURKEY.

GOOD MARKETS, BUT CAN NOT BE SECURED BY MAIL ORDERS.

Consul-General Ernest L. Harris, of Smyrna, reports that a large business in American goods can be done there, but not on the mail-order system. He gives the following reasons:

Catalogues must be printed and correspondence carried on in four languages—English, Greek, Turkish, and French. The expense entailed in sending parcels from New York, especially to the interior cities of Asia Minor, would be large; the numerous custom-house formalities requisite to clear small parcels would be a handicap to trade, and the mail-order system is practically unknown in Turkey, except, perhaps, to the few American residents, and a native will not purchase an article unless he first sees it.

The establishment of a branch house is strongly recommended, for the reason that Smyrna is the gateway to Asia Minor, and in a few years the whole trade of the interior will pass through Smyrna instead of Constantinople. The boom in trade in Asia Minor is now starting, and restrictions on travel from one part of the Empire to another have been removed. The tide of emigration has turned since last July, and thousands of persons are returning from America, Europe, Egypt, and especially from Russia, where they have been accustomed to more up-to-date methods of living than prevailed and still prevail here, at least in the interior of the country. The needs of these persons will have to be supplied, and their influence and ideas, upon their return to their previous homes, will soon spread all over Asia Minor. The two or three large department stores in Smyrna have paid extremely well, and an American store, if established, would yield handsome results. The Smyrna Province is by far the richest in the whole Empire. Asia Minor has, as yet, been entirely unexploited, but will not long remain so.

ASIATIC TURKEY.

CONDITIONS IN ASIA MINOR NOT FAVORABLE FOR MAIL ORDERS.

Consul-General Ernest L. Harris, of Smyrna, reports as follows relative to the conditions which operate against the building up of an American mail-order trade in Asia Minor:

This office occasionally receives letters from large American retail establishments asking for information about the mail-order system in this country, and if it could not be used as a means of sending American goods in small parcels to this market. The mail-order system in this country can not be used for this purpose with any degree of success, for the reason that conditions are not favorable to the plan. Catalogues would have to be printed in at least four languages, namely, English, French, Greek, and Turkish, and correspondence would have to be carried on in the same languages. It costs money to get up attractive catalogues in Greek and Turkish, and yet this would have to be done if it were intended to do any business with the interior of the country.

The expense entailed in sending parcels from New York to Smyrna, and especially to the interior of the country, would be large. Although there are six foreign post-offices in this city, namely, English, French, Austrian, German, Italian, and Russian, I am not aware that there is any especially developed mail-order system in use by any of them, not even with the country which maintains them. Formerly it was the custom to send books in this fashion, but since the proclamation of the Constitution this is no longer necessary. On the other hand, it would be impossible to send parcels through any of these post-offices into the interior of the country, for the reason that they only exist in the seaport towns of the Empire. Then, again, the numerous custom-house formalities necessary to clear small parcels would greatly militate against the mail-order system as a means of trade expansion.

JAPAN.

MARKET FOR MAIL-ORDER TRADE VERY LIMITED.

Consul John H. Snodgrass, of Kobe, reports as follows concerning the outlook for a mail-order trade in Japan:

Requests have been made recently by large American firms as to the possibilities of building up a mail-order business in Japan, it being desired that detailed information be given as to the proper methods to pursue, so that the native population, as well as the foreigners resident, may be reached. In some instances catalogues have been forwarded to this consulate for distribution. The foreign population of this consular district consists of a few thousand, the last census of Kobe showing that 3,669 foreigners reside within its corporate limits, distributed by nationalities as follows: American, 204; British, 591; Chinese, 2,286; Germans, 241; Portuguese, 102. Other countries of the world are represented by a scattering population.

There are perhaps 400 Americans, principally missionaries, living in other sections of this district, so that the expectation for an extensive mail-order business with foreigners here could not be realized, even though they all patronized American institutions. The British send to London and Manchester for articles they can not purchase here, and the Germans spend their extra money in Germany.

FOREIGN WEARING APPAREL AND THE JAPANESE TARIFF.

Many purchase their wearing apparel either in the United States, London, or Paris. For example, it is impossible to get American shoes here, and while the Japanese make excellent imitations for about what one pays in the United States these do not give the same satisfaction. Therefore, those who desire late styles and proper fits purchase by mail from home. The same is true of men's clothes and ladies' garments, so that the wealthier classes arrange for their selections abroad.

In wearing apparel for men and women there is undoubtedly some business to be done in Japan, but unless foreign firms have special representatives on the ground to solicit orders the only way to present their lines is by catalogue or an advertisement in the local English papers. However, the import duties on foreign material is so high that few can afford to purchase abroad. As an illustration, there is a 40 per cent duty on boots and shoes, hats, caps, and ladies' bonnets; the same on underclothing, as well as on shirts, collars, and cuffs; 30 per cent on handkerchiefs, 50 per cent on traveling rugs wholly or partly of silk, and practically the same on all articles of wearing apparel.

A list of the leading citizens of each community may be secured by enlisting the services of some young man recommended by the consuls. Any attempt to introduce a mail-order business among the Japanese would, however, prove futile.

BRITISH INDIA.

SMALL MARKET FOR READY-MADE CLOTHING.

Consul-General William H. Michael, of Calcutta, reports as follows concerning British India as a market for ready-made clothing by mail order:

Ready-made apparel for men is rarely to be met with in India, except rain coats and rubber garments. Some ready-to-wear gowns for women and misses are found in the department stores and in one shop in Calcutta exclusively devoted to ladies', misses', and children's suits. There is no " clothing store " in any city in India, so far as I know. The reason for this is probably the cheapness with which men's garments can be made by the " dhurzees," the native tailors, who imitate exactly any garment given them to make, without ripping the original garment to pieces. The imitation, as to workmanship, will be exact, and the garment will fit perfectly. The cost of an all-wool suit of fine quality is from $10 to $15, which is very much less than a similar suit could be purchased for in the United States. Besides the dhurzees there are many European tailors, who, as a rule, use imported English cloths, and make the garments by measure. They have a European cutter and the work is done by natives. They charge considerably more than the dhurzees.

There are few Americans in India, and 90 per cent of these are missionaries who, of necessity, get their clothes as cheaply as possible. They use the dhurzees almost exclusively.

The natives as a rule wear cotton dhoties, which is a piece of cotton cloth two-thirds of a yard wide by twelve yards long. This is deftly wrapped around the hips and body and thighs in such a way as to make coat and pants. The Europeans, Eurasians, and Armenians wear clothes similar to those worn in Europe and the United States, but this class is not large enough in India to create, under existing conditions, a retail market for ready-made clothing.

The value of the imports of apparel (this includes all kinds of ready-made garments) for last year was only $7,041, and the value of the imports of this class of merchandise has been about the same for the past three years.

In view of this showing India does not hold out much encouragement to American manufacturers and exporters of ready-to-wear garments either for men or women.

CANADA.

THE OUTLOOK FAVORABLE FOR AMERICAN MAIL-ORDER TRADE.

Consul Gebhard Wilbrich, of St. John, furnishes the following information relative to the outlook for an American mail-order trade in New Brunswick:

It may be well to state that this territory is already pretty well worked by Canadian houses doing a mail-order business. In addition to large local firms doing business in this manner, two Ontario firms solicit orders through the medium of the mails.

In some lines American goods are decidedly in demand, owing to the larger range of selection and their distinctive styles. Thus it came to my attention recently that a lady here in possession of an American catalogue placed an order for an expensive fur hat with the house simply because she could not procure here the exact beaver style desired. If this feature of style proves an inducement in a line of goods such as furs, in which Canada enjoys a natural advantage, it augurs well for prospects in other lines wherein the Canadian tariff alone operates in favor of domestic goods.

AMERICAN GOODS IN FAVOR.

In muslins and similar lines of light dress goods this market also offers a promising opportunity of working up a mail-order business. In variety of designs, coloring, and prices, houses here, so it is said, cannot compare with the large houses in the United States, and for this reason ladies, in their periodical visits to the States, frequently reserve purchases until they cross the border. It is suggested, therefore, that if a special catalogue be issued for the Canadian trade, stress be laid on the attractiveness of American muslins.

Another class of goods for which there might be a local demand is underwear, other than woolen, particularly the finer grades. An excellent class of heavy underwear is furnished by domestic and English mills. It is my understanding, however, that many persons are unable, with comfort, to wear next to the skin, any garment containing wool. As the other lines of English underwear are not equal to their woolens, American goods meet with favor. American gloves, neckwear, hats, shirts, shoes, hosiery, millinery supplies, and haberdashery meet with ready sale here and are imported extensively, so that the market, if well worked, is at any rate thoroughly prepared for the reception of American goods. As local and Ontario firms find it profitable to work this territory through the mails, and as there is an extensive and steady demand for American dry goods already established, it should also prove a promising field for American exploitation.

MEXICO.

HOW TO BUILD UP A MAIL-ORDER TRADE IN ACAPULCO.

Consul M. K. Moorehead reports as follows regarding the steps to be taken by American houses in order to build up a mail-order trade in the Mexican district of Acapulco:

At present almost the entire retail and wholesale trade of this district is in the hands of three Spanish houses. [Names on record at Bureau of Manufacturers.] Practically no mail-order business is done, except in a small scale with the department stores of Mexico City, and to a more limited extent with American firms, by the few Americans residing in Acapulco. After an investigation of conditions in this section I have come to the conclusion that a mail-order trade with the United States could be created. To get this business a large amount of preliminary advertising would have to be done. Catalogues printed in Spanish should be sent to the homes of the people along with circulars describing the advantages, terms, and conditions. This circular should also contain estimates of the total cost to the purchaser including postage and Mexican custom duties. From a careful examination of the Mexican tariff, a copy of which, in English, may be obtained from the Department of Commerce and Labor, Washington, an estimate could be made of the probable amount of the duty that would be levied. The Mexican tariff being based on the weight, the shipper is alone able to determine in advance what the duty would likely be. The uncertainty of what would be the probable total cost of goods prevents many Mexicans from purchasing in the United States.

The stores in Mexico City have several advantages over those in the United States, viz: (1) The total cost can be determined in advance by the purchaser, as there is no import duty to be considered; (2) within Mexico goods can be sent C. O. D. by parcels post, the consignee paying the charges at the post-office in the shape of a money order in favor of the shipper before the package is given up by the postal officials; (3) all catalogues and advertising matter is in a language understood by the prospective buyer.

For American firms to get a share of this trade these advantages must be overcome by some such method as I have suggested. It should be noted that goods can not be sent to Acapulco by express, and the maximum weight by mail is eleven pounds.

A list of the American residents of Acapulco, and also of the more prominent Mexican families, is forwarded. [List on file in the Bureau of Manufactures.]

MANZANILLO.

OPPORTUNITIES FOR BUILDING UP A MAIL-ORDER TRADE.

The following information concerning the opportunities which the consular district of Manzanillo offers for the building up of an American mail-order trade is furnished by Consul Arminius T. Haeberle:

After investigating the matter I find that there are excellent opportunities to do good business here, and by introducing catalogues in the right way it would be possible to extend business among the American residents as well as among the Mexican. Many of the large houses in the States receive orders from here by merely sending down catalogues printed in English, but to carry on the work properly catalogues should be printed in Spanish as well, as this would greatly facilitate matters for the native population. Besides, the catalogue should also show the charges for postage and for registering or insurance. In short, everything should be made as convenient as possible for the purchaser here, calling attention to the conveniences of the parcel-post and international money-order systems. An extensive trade could be secured in this way.

DOMINICAN REPUBLIC.

GOOD FIELD FOR MAIL-ORDER BUSINESS.

Consul Ralph J. Totten, of Puerto Plata, furnishes the following information regarding the sale of American goods in the Dominican Republic:

There is a growing demand for American goods in this district, especially clothing, furnishings, and women's wear. The duties are high, but as all merchandise must be imported, the American merchant is on equal terms with the local merchant. This should be a good field for reliable mail-order houses. [List of large buyers in Puerto Plata on file in the Bureau of Manufactures.]

FOREIGN BUSINESS USAGES.

ARGENTINA.

FOREIGN CORPORATIONS DOING BUSINESS IN THE REPUBLIC.

Consul-General Alban G. Snyder, of Buenos Aires, furnishes the following information, in answer to inquiries, concerning business methods in Argentina:

In regard to the standing of foreign corporations doing business in Argentina, either selling goods direct by means of traveling salesmen or through established branch houses conducted under the name of the corporation itself, the conditions are as follows:

If an American company desires to establish a branch in the Argentine Republic, it should be duly incorporated according to Argentine law, securing authorization from the Government, and presenting the statutes and by-laws of the society which served for its organization in accordance with the laws of the United States.

The authorization of the Government having been secured, which is necessary to give it legal standing, the statutes and other laws of the company and said authorization should be presented to the judge of commerce, to be published in some paper for fifteen days. Said publication having taken place, the judge orders said statutes, etc., to be inscribed in the Public Register of Commerce, from which the said society secures its constitutional title and all rights pertaining to similar Argentine companies according to Argentine law.

The expenses are as follows: A tax of 1 per cent on the capital of the company, which is to be used in its operations in the Republic. For this purpose the directors should make a statement as to the amount of money to be used in the business in Argentina, said statement to contain the amount which they think convenient. There are other expenses of seals, publications in the papers, etc., which amount to about $2,000, more or less, in accordance with the importance of the enterprise.

The company should give some party a power of attorney to attend to all these matters and to represent it in this country, the company being domiciled in the capital. Many companies avoid a great deal of these expenses by naming some house already established in the country as agents. Traveling salesmen representing foreign houses pay a certain yearly tax fixed by the various provincial governments, ranging from $21.30 to $950 United States currency, in accordance with the class of business and the locality in which it is transacted.

BRAZIL.

LEGAL STANDING OF FOREIGN FIRMS IN THE REPUBLIC.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the legal standing of foreign firms in Brazil, in reply to inquiries from American houses contemplating business in that country:

Foreign houses, American as well as others, do business in Brazil in one of three ways: (1) They sell direct from the United States to the Brazilian consumer, or to a Brazilian house in the position of a consumer, on orders received by cable or mail or by a representative of the Brazilian consumer or house in the United States; (2) by traveling representatives, who visit Brazil with samples and sell by sample, or upon orders received as orders to his house and on account of his house and to be financed by his house, or (3) through a branch house established in Brazil as such. These several methods involve the question of the rights of foreigners generally, but particularly the rights of commercial travelers in Brazil, and the necessity of such travelers registering under certain requirements of the laws governing the federal district (Rio de Janeiro) and of the several States in the Republic.

Sales made under the first of the above-named classes—i. e., upon orders received by cable, letter, or otherwise without being made by a representative of the American interest in Brazil—are international in their nature and are subject to the general rules of so-called "private" international law, being no different from such transactions between Americans and the people of any other country. In the collection of accounts on such sales the American or other foreign interests have standing in Brazilian courts to the full extent allowed foreigners who have complied with all requirements of Brazilian law.

REGISTRY AND LICENSES.

The second class of sales, those by traveling representatives, include the larger portion of international business. In some respects this class naturally merges in some degree into the first class, where orders are sent direct, and this merger is of considerable practical importance in Brazil. In most of the countries of South America all local business firms are required to register as such with the local authorities, the registry, on the one hand, affording a means of taxing such firms in the way of an annual or monthly license fee authorizing them to do business. In some cases such license fees go to the States, in some to the municipalities, and sometimes licenses are required by both governments. On the other hand, such registry and license entitle the concerns registered to representation in certain governmental functions, as, for instance, in the selection of members of the "Junta Commercial," which in Brazil forms a court of first instance for the trial of commercial causes and which has charge of certain portions of the work of registering trade-marks and the like. These license fees for registration vary in amount from a few milreis upward. In Rio de Janeiro a bank pays an annual license fee of $750. Most merchant houses, those handling machinery, for example, pay something like $100 per year. These registration or license fees are a form of taxes, and failure to pay them involves certain penalties, the chief of which is that the concern so failing has no standing in the commercial court in which it must make its first move to collect an account.

This principle of registration and license is carried far enough to cover commercial travelers doing business in the country, and inasmuch as these registrations are either of the State or municipality, or both, they are but local and a license must be had for each locality. The registration tax varies greatly, not only in the several parts of the country, but from time to time in the same place. In most of the States a single payment will cover that State, and the tax ranges from $75 to $300, or even more. The last statement at hand of such taxes shows that the States of Amazonas and Para charge $300, the States of Maranhao, Ceara, Pernambuco, and Bahia $180, and the States of Parahyba and Santa Catharina $120. The Federal District charges the regular license fee for merchants in the same line, the minimum charge to be that for three months. Some of the larger cities impose municipal licenses similar to those imposed by the States.

THE COMMERCIAL TRAVELER PROBLEM.

While the laws concerning commercial travelers in Brazilian States and municipalities are clear, most of the travelers coming to the country pay no license, in line with customary ways of doing business here. Sales made by travelers so merge into sales made directly by American firms to Brazilian firms that close distinctions are important. Travelers coming to Brazil and selling by samples on their own account or on account of their firms must pay the tax or run the risk not only of a possible fine for not paying it, but also the risk of being unable to collect money for their goods. Most travelers in Brazil, however, deal with local trade through a local firm. They visit the trade and take orders, but turn such orders over to the local firm which approves of the sale as its own and finances the transaction as an order from it to the house in the United States direct. The traveler, in short, simply drums up trade for the local house. His sales are technically on account of the local house and the transaction is an international affair. This course not only avoids the payment of a license fee and the trouble of registration, but it fits into the habit of Brazilian buyers who are disposed to demand a local agency with which they may deal in case of dispute. The vast mass of foreign business done in Brazil is through such local houses, both for the reasons given and as the best means of promoting trade, permanent trade almost invariably depending upon the existence of local agencies. Where local agents are had by American houses the latter need have no trouble over the matter of registering travelers. It is important, however, that where sales are thus made by travelers such sales should be made clearly to appear as international transactions between the local house and the American house on the same basis as sales on mail, cable, catalogue, or similar order. Where sales can not thus be made the traveling salesman should be registered.

REGISTERING AMERICAN BRANCH HOUSES.

The registering of a traveler is in most respects, and as far as determining the rights of the American house is concerned, practically the same as establishing a business house in Brazil. Any American individual can establish a business house in Brazil in the manner that a Brazilian can, by securing a license to do business and meeting all the varied requirements of inaugurating a business in the country. An American company, however, is subject to the necessity of establishing its legal entity in Brazil as it exists in the country of its origin. This is effected by covering the following four points:

1. The company or corporation or other organization must present a copy of its statutes signed by its incorporators or organizers.

2. There must also be presented a list of its shareholders, with their names, professions, residence, and the number of shares owned by each; a power of attorney made out by the directors or incorporators of the company, naming a person in Brazil with powers to represent them before the Government, law courts, or private persons. In this power of attorney must be given to said representative the power to sign a petition on behalf of such concern, asking the Government to authorize the company to work in Brazil and all other acts necessary for the purpose.

3. Such companies must deposit in the federal treasury a tenth part of their capital, but this deposit can be recovered by the company after its statutes and other documents have been deposited in the "Junta Commercial." For this registration a charge is made of 1,100 reis for each 1,000 milreis of the capital of the company, which reduced to American currency would be about $1.10 per $1,000.

4. All documents must have signatures acknowledged at the Brazilian consulate where the acts are performed or, in case there is no consulate there, at the Brazilian consulate-general in New York City for the United States.

In addition to these formal requirements there are many expenses for the translation of documents into Portuguese, publications in official gazettes, revenue stamps on all documents, and similar expenses. The fees of the attorney having the matter in charge ordinarily run from $900 to $1,500, varying with the work to be done and the interests to be served.

Some of these requirements and these expenses imposed upon companies or corporations are common to the requirements imposed upon the organization of companies or corporations of one sort or another in Brazil by Brazilians. The practical effect of the registration of an American or other foreign concern in Brazil is to establish it as a Brazilian concern, with all the rights, privileges, and duties of a Brazilian house. The registration of a commercial traveler gives him, as an individual, the right to do business on behalf of his principals, but does not give the principals the standing and rights of a local house.

FRANCE.

SETTLING DISPUTES RELATING TO COMMERCIAL TRANSACTIONS.

In reply to an inquiry from a Maryland lumber exporting company, Consul Alphonse Gaulin, of Havre, furnishes the following information concerning the settlement of commercial disputes in France:

In France all disputes relating to commercial transactions may be submitted to the local tribunals of commerce. These tribunals have exclusive jurisdiction in cases where the amount involved does not exceed 1,500 francs ($289.50) and original jurisdiction in other cases, where their decisions may be reversed by the civil court of appeals of the district; but the parties may agree beforehand that the decision of the tribunal will be final, and such agreements are binding. The judges of these tribunals are elected every two years by the merchants of the district, and are generally chosen among business men who have graduated from law schools. The Havre tribunal enjoys the highest reputation, and its impartiality towards all concerned has never been questioned.

The procedure is very simple. The services of solicitors are not required as in the civil courts. It is not even necessary that the parties should be represented by attorneys. The suit is begun by the issuance of a writ of summons, which is served on the defendant. A written statement of the case is filed by the plaintiff on the return day of the writ, and the tribunal fixes the delay within which the defendant may enter his plea. Technical questions are generally submitted to one or three experts, or arbitrators, appointed by the tribunal. The report of these experts may be set aside, but this is a very rare occurrence. All cases are usually disposed of within a few months after they have been begun.

The charge for the preparation and service of a writ of summons is $4.80. The fees of experts vary with the importance of the case. The State also levies a tax dependent upon the amount for which judgment is rendered, but all the above-mentioned costs have to be paid by the losing party. Moreover, if the parties accept the report of the experts before judgment is rendered, no tax is levied.

Trade disputes are occasionally submitted to arbitrators selected in the usual manner; but this is not a compulsory proceeding, and a preliminary agreement must be entered into by the parties.

Further, in reply to the same inquiry, I would state that there are several warehouses in Havre where lumber and logs may be stored, the principal ones being the "Docks-Entrepôts" ("Bonded warehouses") and the "Docks du Pont Rouge." These warehouses are situated in the vicinity of the docks. The charges of the bonded warehouses for 100 kilos (220 pounds) are as follows:

Service.	Charges for—		Service.	Charges for—	
	Cabinet-work.	Building work.		Cabinet-work.	Building work.
Discharging and stowing under sheds (including marking and numbering when discharging)	*Cents.* 1.74	*Cents.* 1.74	Delivery of goods: Including weighing, measuring, or counting	*Cents.* 1.74	*Cents.* 1.74
Discharging on the quay:			Without weighing		.77
Including weighing, measuring, or counting	2.12	1.54	Extra services: Breaking out cargoes	.96	.58
			Weighing	1.16	1.16
Without weighing, measuring, or counting	.96	.77	Restowing	1.35	1.35
			Storage in bonded warehouses per month	[a]1.45	[b].36
Transporting and storing in the bonded warehouse goods which have been discharged on the dock	3.86	3.67	Storage of goods not under customs surveillance	[a].87	[b].29
Storing goods in the bonded warehouse which have been discharged on the dock outside	2.12	1.54			

[a] Covered. [b] Uncovered.

The names of the leading forwarding agents who have most experience in the handling of lumber are herewith given. [Names on file at the Bureau of Manufactures.]

INFORMATION FOR EXPORTERS.

CHILE.

POINTS AMERICAN MANUFACTURERS NEED TO KNOW AND OBSERVE.

Having received numerous letters of inquiry from American exporters relative to the outlook for introducing various lines of merchandise in Chile, Consul Alfred A. Winslow, of Valparaiso, has prepared the following directions and observations for the benefit of American exporters:

It is difficult to carry on business by mail. It is better for American houses to send an experienced salesman into Chile or to make arrangements with some good American house with branches in this country to introduce their goods. In every case where possible send the salesman, for it will pay well. Personal work will accomplish more here than at home. The language of this country is Spanish, and in consequence letters written in that language, and catalogues, price lists, etc., printed in Spanish will be more effective and far-reaching, but there are very many business houses in Chile where English is as well understood as Spanish. Well prepared and neatly-written letters, giving pertinent facts about the business in hand, will generally receive attention from business houses, but trashy matter is bound to go to the wastebasket in haste. The same is true with printed matter.

Money spent in judicious advertising in Chile will accomplish as much, if not more, than a like amount in the United States and will be an effective way to introduce many lines of goods. American-made goods take well, but the people are practically European so far as their tastes go, since that is the part of the world they have seen and heard most about. Establish an agency here and then advertise and create a demand. There are several good newspapers and periodicals in the country.

EUROPEAN IDEAS PREVAIL—TRANSPORTATION FACILITIES.

The business customs are rather European than American, and the business men are slow as compared with Americans. As a rule they are honest, conservative, and reliable. They generally buy on long credits, send in large orders, and take their time to pay the bills. They do not push for trade as merchants in the United States do, and are very independent with their customers. If the purchaser knows just what he or she wants, he can probably get it, but if he wishes to look around to see if he can see something special the chances are he will never find it. Here is where advertising comes in to create a demand and force the tradesmen to keep the line.

At present there are but few American business houses in Chile, and several of these handle European-made goods as well. The greater number of the importing houses are European in name and sympathy, and consequently prefer to handle goods from their respective countries. The European manufacturer either establishes an agency in this country or sends his best salesman, who speaks Spanish, to every place of importance in the country, and who sells goods on long credits and studies the wants of the people and the trade. He takes his time and is given a liberal allowance for contingent expenses so he can meet his customers in a social way, which means much in this part of the world.

Transportation facilities are much better between Europe and the west coast of South America than they are from the Atlantic coast of the United States. There are several lines of steamers, and it is possible to get a steamer at most any time, with rates that are better than quoted from the United States. It takes more than one-half longer to get goods from the United States than it does from Europe. The shipping facilities have materially improved with the United States during the past year, so that now there is an average of about three steamers a month. There are three lines between this coast and New York, as follows: Merchants' Line, represented in New York by W. R. Grace & Co., No. 2 Hanover square; the West Coast Line, represented in New York by Wessel Duval & Co., No. 25 Broad street, and the Barber Line, Produce Exchange Building, New York. These lines sail round through the Straits of Magellan and require from six to eight weeks to make the trip, with a freight rate of from 21 to 30 cents per cubic foot, or from 37 to 54 cents per 100 pounds.

The important banks of Chile are either Chilean, English, German, or Spanish, and are naturally more interested in building up trade with Europe than they are in helping American trade.

Now, if the American exporter will carefully consider the foregoing facts he will readily see that if he wishes to introduce his goods into this country he must do some active and effective work. To simply send out letters, circulars, catalogues, and price lists will avail but little, since the wastebasket gets a very large proportion of them as soon as opened. Comparatively few business men here pay any attention to circulars, etc., sent by mail unless they be printed in Spanish. Besides, should the American exporter receive an order, how is he to ascertain whether the purchaser is responsible or not? Can he afford to give six or eight months' time to parties of whose standing he knows nothing? Should he fill such an order, how could he proceed to collect the debt should the party fail to pay the bill? It can be seen quite plainly that the usual facilities for working up business enjoyed at home are lacking in these countries, and that it is a waste of labor to proceed without bearing this in mind.

This consulate would suggest that all American houses wishing to enter the markets of this country should send a first-class salesman who speaks Spanish, and is familiar with foreign manners and customs, to carefully study the conditions and form business connections with reliable houses. Such a salesman should take plenty of time to do his work thoroughly. The expenses of such a salesman could easily be borne by several houses having allied lines, since many of the better houses here carry many lines. This plan will prove better than any other now in use. If this plan is too difficult of execution it would be well to interest some American exporting house with connections in Chile. Do not expect to succeed in these markets without a strong effort. If you are not prepared to push hard for trade here do not waste time and money.

JUDICIOUS ADVERTISING—LEADING AMERICAN LINES—PACKING.

Manufacturers and exporters should understand that American goods and machinery, so far as they have been introduced, stand well in Chile. Until very recently this field has been left to the European manufacturer and exporter, and they have done their work well. The European product is well known. It is now time American interests should enlighten this part of the world in the fine points of American goods. When American goods have been introduced by a salesman, or otherwise, it will pay well to advertise them through the press, and by means of posters, etc. Good judicious advertising is fully as effective here as at home. A demand can be created here for most anything of merit if it be thoroughly advertised.

It should be understood that practically all manufactured articles consumed in Chile are supplied from foreign markets, and that the American manufacturer stands at least an equal chance with the European manufacturer if he works the field as thoroughly. It will pay well to cultivate the trade of this country in an up-to-date fashion, while to only scratch the surface as a large number of American houses are doing is wasting money. European houses understand this and have profited by it. To be sure, the United States has quite a trade with this part of the world, but it is largely made up of the lines of goods in which Americans so greatly excel, such as certain lines of builders' hardware, drugs and medicines, silverware, agricultural implements, dental, surgical and scientific instruments, electrical specialties, petroleum products, etc.

Much attention should be given to packing and invoicing. Great care should be taken to have everything so firmly secured that it can not shake about in the case or rub together. The cases should not be overly large and made of at least inch boards well bound with strap iron. Most everything is valued for customs purposes by the kilo, and in many cases duty is collected on the gross weight, so it is clear that the packing should be as light as possible with security, and orders should be filled exactly as sent and no substituting of articles "equally as good." Freight is very roughly handled on this coast, and purchasers much prefer to pay a little more duty and freight rather than to receive worthless articles because of breakage. Brittle pine boards should not be used. Poor packing on the part of many of the American exporters has been, and still is, a great handicap to the advance of American trade abroad.

The question of credit is an important matter when it comes to getting this trade and holding it, and it is one that should be seriously studied by manufacturers and exporters. A manufacturer who demands cash in full at the port of shipment should not expect much business in Chile. The European competitor gives credit, and thus gets most of the business. Of course, he studies his customers through his traveling salesmen and knows whom to trust, and takes but few chances.

This consulate carefully files all catalogues and price lists received, for use of the merchants of this consular district, and it would be to your advantage to have your catalogues and price lists on file here. It might be well to file your confidential prices or discounts, to be consulted by dealers. These to be filed on separate sheets, letter size, for use in special file. The catalogues may be in either English or Spanish. Spanish is preferable, it being the language of the country.

Do not fail to pay full postage, which means 5 cents for each letter weighing 1 ounce and 3 cents for each additional ounce. Do not expect to secure much Chilean trade without a strong effort. Do not send your customer something different from what he orders, simply because you happen to think it as good or better. Do not fail to mark your cases clearly on top, one side, and one end with characters at least 2½ inches high. Do not fail to pack everything well. Do not look for immediate results—be willing to work and wait.

A very complete directory of Chilean business houses has been compiled by this consulate, to be published in pamphlet form, by The National Business League of America, with offices at Stock Exchange Building, Chicago, Ill. Those interested in the trade of this country would do well to apply for a copy. It contains much general information of value to exporters.

URUGUAY.

AN AMERICAN SALESMAN SECURES FINE ORDERS IN URUGUAY.

Consul F. W. Goding writes that as a number of representatives of American manufacturers have visited the port of Montevideo with indifferent success, it seems advisable to place on record, that others may profit by his labors, the experience of one recently there, whose visit was rewarded by a long list of orders for Uruguay. The consul describes the course pursued by the traveler:

The gentleman was making his first trip as salesman, and what was lacking in experience was compensated for by his tact. He was familiar with the Spanish language, which he acquired while in the Philippines, where he was a close student of Spanish character.

On arriving at Montevideo, he called at the consulate and asked for such assistance as might be rendered. His trunks were attended to by a customs agent and a hotel arranged for. He was introduced to one of the leading merchants (an American), who, in turn, introduced him to the merchants interested in his particular line. Some of the goods had previously found their way here through a German house, but owing to a want of technical knowledge of them the goods had been condemned as worthless. Such a serious position had to be overcome. He called on the interested merchants, made himself agreeable, and won their confidence, merely asking them to be present at the demonstration which he would give at a room in the hotel which had been specially fitted up, at the same time stating that he was not there to take orders, but to show his goods to them. He suited their convenience in every way, was not in a hurry, and assumed an air of indifference as to sales.

EXCELLENT NET RESULTS.

His demonstration was so successful that it was barely finished when the merchants asked him to take their orders, which were large ones. He left here for Buenos Aires, after a stay of a couple of weeks, the profits on his sales being much greater than his expenses, as had also been the case in the several ports of Brazil. His firm had placed $5,000 to his credit, believing that it would cost that sum to introduce their goods. On leaving here the profits on his sales, all told, were nearly three-fourths of the sum which it was expected the introduction of the goods would cost for all of South America, although Brazil and Uruguay only had been visited.

This is an instance where an American representative, both he and his goods either unknown or with a strong prejudice against them, wholly without experience as a salesman, being an educated, tactful man, was able to introduce a line of goods, not only without expense to the manufacturer, but at a profit, the percentage of which was greater than it would have been had the sales been made in the United States.

The reasons for his success are plain. He had perfect confidence in his wares. He was enthusiastic in his work. He was familiar with the language, customs, and peculiarities of his customers. He suited his time to their convenience. He was always tactful. He was always cheerful. But his success was due, in great part, to having been started right from the consulate, the information received, which he had the ability to appreciate and profit by, preventing him from making serious mistakes.

What he has done others can do. But one thing should not be forgotten. The methods employed by American salesmen in the United States when selling goods will not only fail to secure orders here, but are looked upon with grave suspicion.

Many letters received at this consulate claim that the writers can not afford to send representatives here, owing to the heavy expenses connected with such a move. If a permanent trade is to be built up with this Republic (and doubtless the same will prove true of the other Latin countries), it is imperative that goods be properly shown by one who desires to succeed and who knows the people, their language, and characteristics.

Failures have been made here where a little preliminary knowledge would have turned them into successes, such information being at hand at the American consulate and at the disposal of those seeking it.

GENERAL POINTS FOR TRAVELERS.

Obtain a consular invoice from the Uruguayan consul, located at the last port before leaving for Montevideo.

Immediately after landing at Montevideo call upon your consul, who will supply you with such information as you may require and who will introduce you to the local representative business men, provided you can satisfy him as to your bona fides.

Do not arrange for the transfer of your baggage and sample cases until you have examined the tariff. Expresso Villalonga has offices in the principal cities and towns of Uruguay and Argentina, and their charges are reasonable.

Always employ a reliable customs agent, who will save you time, trouble, and expense.

There is no need to engage a carriage at the wharf, as a short walk will bring you into the business center.

Duty is charged on samples, unless they have been mutilated, rendering them unsalable.

The rates at the three leading hotels are from $3 ($3.10 U. S. gold) to $4 ($4.14); baths extra.

The rate for carriage hire is $1 ($1.04) per hour, but you can reach the business houses by walking, or the trams.

Do not attempt to do business here unless you are familiar with the Spanish language and the Latin people; otherwise your visit will end in failure.

Never attempt to hurry your customers, nor show any offense at postponed engagements, but make another call with a pleasant countenance.

Always keep your temper well under control and carry a pleasant expression on your face.

If you have every confidence in your goods, you will make sales. If your goods are not reliable, you had better not show them.

Do not try sharp practices, as these people have long memories.

See that the firms you represent carry out to the letter every agreement you make with you customers.

Your goods must be packed properly so as to be received in good condition.

Do not call here merely to work off a surplus stock, but with a determination to establish a permanent business.

Come prepared to offer terms similar to those given by European firms; otherwise you will take no orders.

Do not forget that the bulk of this trade is in the hands of the British, French, German, and other Europeans. There is no prejudice against goods manufactured in the United States, but they are not well known. A skillful salesman, however, will more than pay his expenses the first trip from the profits on the sales, provided his goods are suitable to the wants of these people.

Practically all of the firms doing an importing business here are reliable and are very jealous of their commercial standing.

The German and French importing firms here will not purchase American-made goods which are in competition with those made in their home countries, as they are here in the interests of firms whose goods are made there.

Your general demeanor should be quiet, unassuming, deliberate, and hopeful. The "American hustler" is looked upon here with suspicion.

Riotous living will not increase your sales.

MOROCCO.

BUSINESS FIRMS STATE THEIR IDEAS AS TO AMERICAN TRADE.

Consul-General Hoffman Philip, of Tangier, transmits the following letters from seven Moroccan merchants, addressed to the vice-consul-general at Tangier, in reply to a circular letter requesting an expression of opinion regarding the possibilities of extending American trade in Morocco. The addresses of the merchants may be obtained from the Bureau of Manufactures:

No. 1.—We shall be glad to be included in the list of merchants who desire to receive correspondence from American business houses. Our relations with these have hitherto been confined to exports from this country. Our dealings with them have always been satisfactory.

This district has hardly yet reached a stage of development at which the usual American goods are required in large quantities, but we are to some extent interested in agricultural implements and machinery; pumps and pumping machinery and all machinery connected with irrigation; iron and steel girders; iron, round and square rolls and bars; building materials generally.

Our principal articles of export are fenugreek seed, coriander seed, and canary seed.

No. 2.—The line of business in which I am chiefly interested is goatskins, of which article I am constantly making large shipments; all the invoices being made in the name of ——— ———, in accordance with the special request of the consignee thereat; under the circumstances, by the amount of those invoices you will understand that my connection with Philadelphia is manifested by the fair amount of the article in question I export annually.

No. 3.—We are open to enter correspondence with America with a view to business. We are doing very little in imports, our line being exporters of olive oil, almonds, goat and sheep skins, and gum sandrac, and we are also prepared to act as commission agents and to furnish those who enter business relations with us excellent references.

No. 4.—I should very much like to receive correspondence from American business houses, for import and export. For import I am interested in some goods, such as hardware, various cottons and woolen stuffs, chinaware, etc., and for export I generally ship to London gums, such as brown and gum sandrac; also goat skins, almonds, etc. I never had the pleasure of dealing with any American house.

No. 5.—We are quite willing to introduce American products in this market, but regret to say that the American goods as a rule are too good for this market and the prices are too high. If we would get a suitable offer we should be very pleased to consider the matter. As to the line of business, we may mention that we are importers of nearly all the lines of goods which are sold here.

Our chief interest lies, of course, in the export of Moroccan products to America, and we are already in correspondence with several American firms and have also done some business with America in coriander, fenugreek, and canary seed. Our ———— house is a regular shipper of goatskins to the United States.

If you get any inquiries from American exporters, kindly give our name to them and we shall be very pleased to consider the matter if we find their goods suitable for this market.

No. 6.—I shall appreciate it a favor if you place me on the list of such firms that are interested to do business with the United States of America. My firm has been in current correspondence with large import firms in the States for many years, and only during the course of 1907 were my dealings less important, likely owing to the crisis your country unhappily had to undergo. It seems that even now (midsummer, 1908) the trade in general has not yet its former degree, the prevailing slackness showing the want of the former brisk demand for Moroccan produce. This is noticed principally in the skin and seed trade.

Aside from my export trade, I am also importer of all foreign articles that find an outlet in this country and which leave me some margin. I work as well for my own account as on commission, only the larger part of my trade is carried out in the first-mentioned way.

No. 7.—From your communication I assume that the American consulate-general has frequently sent my name to American exporters as a representative merchant. However, I have not had any offers from Americans, except one about four months ago by a typewriter concern offering machines for sale. In reference to introduction of American goods in this Empire, I shall have much pleasure to attend to any representation that may be intrusted to my care, and shall be quite willing to introduce and exhibit suitable American industrial articles here and on the coast, being myself an experienced trader.

A large trade can be done with American firms in petroleum oil; also in wood used for building purposes, etc. In return I could supply many products, as olive oil in quantities, goatskins and sheepskins, gum sandrac, brown gum, etc., and hope my firm will be of service to you and useful to American interests, having for many years back enjoyed the American protection.

BUSINESS IN TAHITI.

HOW COMMERCE IS CONDUCTED IN THE SOCIETY ISLANDS.

Consul Julius D. Dreher, of Papeete, has prepared, under date of November 16, the following comprehensive account of how the commerce of Tahiti is carried on. His reference to the new steamship connection with New Zealand calls attention to another route for shipping American goods thither.

The French colony of Tahiti and its dependencies, embracing five groups of islands in the South Pacific, has a population of 31,000, of whom 27,000 are of the native race, whose simple wants are easily supplied. Their principal food is the tropical fruits which grow abundantly with scarcely any cultivation, and little clothing is necessary in this warm climate. The political and commercial center of the colony is Papeete, a town of nearly 4,000 people.

Of the total imports of $643,039 in 1907, the United States furnished one-half. The proportion for the current year will be somewhat larger owing to increased importations of lumber. When well under way, the phosphate developments on the island of Makatea, 120 miles from Tahiti, will considerably increase the business of the colony, and in this increase the United States will have a full share.

SHIPPING FACILITIES.

A steamship of the Union Line arrives at Papeete every twenty-eight days from Auckland, 2,222 miles distant, and one of the Oceanic Line every thirty-six days from San Francisco, 3,658 miles distant, both carrying mails, passengers, and freight. Beginning in January, 1909, another ship of the Union Line will arrive at Papeete every thirty-six days from Wellington, New Zealand, to make connection with the ship from San Francisco. A few sailing vessels from American and European ports arrive at Tahiti now and then with cargoes of goods, the American schooners bringing mostly lumber.

In order to avoid the delays and uncertainties of receiving goods when ordered from various manufacturers and wholesale dealers, the merchants of Tahiti find it to their advantage to order American goods through commission houses in San Francisco, though some orders are sent to such houses in New York for goods to be shipped to Tahiti by way of Auckland. As San Francisco commission firms are usually able to purchase and ship goods by the return steamer, Tahiti merchants order most of their supplies as needed from steamer to steamer, this being the case especially with regard to all sorts of provisions. The Mariposa remains in port eight days at San Francisco and four days at Papeete.

American manufacturers who seek trade in Tahiti should have their goods on sale in San Francisco and should inform such commission merchants in that city as have customers in Tahiti where such goods may be purchased. At the same time it is advisable that catalogues, price lists, and terms be sent to merchants in Tahiti, so that they may be in a position to instruct their agents with regard to making purchases. A revised list of the business firms of Papeete, Tahiti, and of their agents in San Francisco and New York may be secured from the Bureau of Manufactures.

CONSULAR REPORTS AND DISTRICT.

As the merchants of Tahiti have a long-established trade with San Francisco and to some extent with New York, and as they keep pretty well informed with regard to business matters in the United States, they make no inquiries at the consulate concerning such matters. Hence a consul at Tahiti can do little to extend American trade except by answering all business inquiries coming by mail, by furnishing lists of merchants when requested, by calling the attention of local merchants to matters of special interest, and by reporting any new business undertakings. With a view of extending American trade as well as to give information, this consulate has previously reported on the proposed phosphate developments in this colony and on a proposed system of wireless telegraphy in the South Pacific, accompanying these reports with the names of the companies and persons interested in these large enterprises.

In this extensive consular district, embracing 109 islands, the largest of which, Tahiti, has an area of only 400 square miles, there are no railroads. Steam is used very little, and electricity is used only for a telephone system in Tahiti. Trade among the widely scattered islands is carried on irregularly by sailing vessels, gasoline schooners (using benzine), and smaller boats. Motor boats are scarcely used at all, the high freight and tariff rates preventing the importation of such boats from the United States. Almost all the schooners, mostly small, engaged in the interisland trade were built in Papeete, chiefly of American lumber. Marine engines may be imported free of customs duties.

LIMITED MANUFACTURING—FREIGHT RATES.

There are scarcely any manufactories in the colony worthy the name except two sugar mills, the product of which is limited to the quantity of unrefined sugar consumed in the colony, from 550 to 600 tons a year. There are several small establishments for ginning cotton. A small ice factory supplies the wants of Papeete, and there are shops on a small scale for making wagons and lighter vehicles, and others which make substantial articles of furniture.

Except on the two sugar plantations there is little need of improved agricultural implements. Some sea-island cotton is raised and a little corn; but there is not much soil cultivated in this country of perennial fruits. Only simple tools and implements are in common use. A good many vegetables are grown.

No machinery is needed in producing copra, vanilla, and mother-of-pearl shell, the three chief articles of export. Sewing machines, typewriters, and bicycles are in common use. There are several automobiles in Tahiti.

The freight rate on general merchandise from San Francisco to Tahiti is $9 a ton of 2,000 pounds or for 40 cubic feet of space, of $8 a ton on quantities of 50 tons or more. The charge for lumber is $10 per M feet, or $9 per M feet to established yards. The rates by sailing vessels are lower. By steamers from New York to Auckland and thence to Tahiti the rate is from $15 to $20 for a ton of 2,240 pounds or for 40 cubic feet of space.

The Bank of Indo-China has a branch in Papeete, which does a general domestic and foreign banking business.

MARKET OPENINGS.

TURKEY.

OPPORTUNITIES FOR PROMOTING TRADE—STRUCTURAL SUPPLIES NEEDED.

The changes that have recently taken place in Turkey have attracted attention of men directing industrial affairs in the principal countries of western Europe and the United States, and all advices from Turkey agree that opportunities are offered there for the sale of large quantities of materials used in construction of almost every description. The popular awakening in the Levant is plainly evident, and it is significant that the United States battle-ship fleet brought to this country a number of young officers of the Turkish navy who were permitted to make the voyage as student observers. These young gentlemen should be afforded opportunity, under invitation and direction of chambers of commerce and boards of trade to visit the principal manufacturing centers of the country, and especially those at which electrical and iron and steel plants are located.

In regard to opportunities that are opening in Turkey for the promotion of trade the following paragraphs, taken from a letter to the Washington Post from a special correspondent writing from Constantinople, will be of interest:

Here is a country so old and so far behind that it is practically a virgin field for engineers and capitalists. China is not less cut by railways or marked with other western improvements. In Constantinople are 1,750,000 people within a radius of 10 miles from Galata Tower, without electricity in any form and with less than 8 miles of car tracks. An American contractor, representing a combination of various interests, has recently applied to the Turkish department of the interior for the telephone rights of the city, and is at work on plans for several street railways. Another American here talks of harnessing the water power in the various rivers and streams about the capital in order to use it in electrical projects which he has in hand. The Government has already drafted projects for more than 3,000 miles of railways, the construction of which is desired at once. Almost all the proposed lines are in Asia Minor, in the richest regions of the Empire.

It is the Turks' intention to give no more absolute concessions to foreign companies, which in every case hitherto has tightened the grip of some European nation upon the land. They intend to invite foreign capitalists to do work for them. Comprehensive bids will be received and the best proposition accepted. Though the railways will be held by the foreign companies for a number of years as a guarantee for investments and as a measure of compensation, everything will be from the beginning nominally Ottoman. The scheme, in other words, is, for the present, at any rate, very much that of a homestead-building society.

CONDITIONS FAVORABLE TO UNITED STATES.

The Turks desire to break away from the tutelage of European countries; and America, because she has no territorial ambitions, is in an excellent position to get in here financially. One difficulty for us is that the Turks' idea of civilization does not include the United States. To them Paris, London, and Berlin are the great capitals, where all that is modern and advanced is to be found. Some of the younger officers who have been trained in the German military schools favor the adoption of German methods and German institutions. Those young Turks who have returned from exile in Paris, on the other hand, hold the opinion that French things are best. It is probable that French companies will have the best chance here, because the French are better known, and their country, of all the great powers of Europe, is perhaps the least suspected of territorial ambitions in this part of the world. Of late the sentiment in favor of England in all things, which displayed itself so strikingly in the critical moments of recent months, seems to be undergoing a very material change.

The visit of part of the American round-the-world fleet to Turkish waters could not have come at a better moment for the interests of American investors. Ten young Turkish officers, all of them men of the new movement, have left Smyrna with the fleet for a visit to New York, Washington, and probably other American cities. These are picked men, whose reports of what they see in America will have influence with the new government.

AN AMERICAN PASHA.

It was Bucknam Pasha, the American admiral in the Turkish service, who conceived the idea of taking the Turkish officers to America, and put the project through. The experiences of Bucknam Pasha since 1904, when he became an officer in the Ottoman navy, have been paralleled by many an adventurous Englishman, but Americans do not often possess that spirit which takes men into strange services in strange countries.

Capt. R. D. Bucknam came to Constantinople in command of the Medjidia, a cruiser built for the Sultan's navy by the Cramps Company. After he had delivered the ship an audience was given him by Abdul Hamid, who asked him to be a captain in the Turkish service and one of his aids-de-camp. Since that time Bucknam has made a name for himself among the Turks and has been decorated with the order of the Medjidieh. Bucknam Pasha is the first Christian to have actual command of Mohammedans, a distinction which even Hobart Pasha, the British admiral of the Crimean war, did not enjoy. It has been the custom of the Turks to place beside every foreign officer a Mohammedan of equal rank, having authority to command.

GIBRALTAR.

CONTRACTS ARE NOT OPEN TO PUBLIC COMPETITION.

Consul R. L. Sprague, of Gibraltar, sends the following report relating to the importation of supplies for the local government, the military garrison, and the naval station of that British fortress:

Gibraltar is a garrison and naval base, and all work on the fortifications, military buildings, roads, and everything connected with the dockyard, are under the direction of the military and naval authorities. Contracts are never opened to foreign competition, and all materials required are brought direct from England.

The property owned by the local government is in charge of the colonial engineer, and the buildings, repairs, and upkeep of same are let out to public competition for a period of one year.

With the exception of lime, mortar, Spanish bricks, tiles, slates, etc., materials are supplied by the crown agents, whose head offices are in London. The sanitary commissioners, a board appointed by his excellency the governor, which has sole control of the cleaning of the streets, of the waterworks, and of the public roads of this town, are also supplied by the crown agents.

The local contractors have on several occasions approached the governor soliciting that both the colonial government and sanitary commissioners open their contracts to public competition, but without success. Although the materials furnished by the crown agents are imported direct from England, many of the articles are of foreign manufacture.

Since the completion of the harbor works and graving docks no work of any magnitude has been undertaken.

JAPAN.

CLASSES OF APPLIANCES IN WHICH THERE ARE TRADE CHANCES.

The following is a copy of a letter written by Consul George H. Scidmore to Francis B. Loomis, commissioner-general of the United States Government to the Tokyo Exposition, in reply to his request for a list of articles of American product or manufacture which, in the consul's opinion, could be shown or exhibited or sold to advantage in an international exposition in Japan:

The most prominent would be machinery and tools, from which should be particularly excluded agricultural implements and machinery. For the latter, of American make, in consequence of the conservatism of the Japanese farmers, the diminutive size of fields, and the cheapness of the simple and peculiarly shaped articles made by the rural blacksmiths, there is not, and I believe there can not be created, a demand. There are also numbers of carpenters' and smiths' tools of foreign make which will not be accepted here.

In this district there is a good and growing market for machinery and tools used in mining, ship building and repairing, sugar refining, rice cleaning, cement making, and spinning and weaving. For the imperial foundry at Wakamatsu and the navy-yard at Sasebo large supplies are required. The increasing use of electrical appliances of all kinds offers a most promising market, and the same may be said of small motors for vehicles and vessels.

The market for leather of all kinds is increasing rapidly, but nothing of much value can be done here with ready-made shoes until the field shall have been carefully studied by experts. Drugs and chemicals are demanded in increasing quantities. In textiles I do not believe that much increase of demand is likely to occur, except for manufactures of wool. Great Britain and Germany lead in these lines.

Great attention is being paid in Japan to the improvement of live stock, especially cattle, horses for the army, and poultry. Nearly all attempts at sheep farming in Japan, however, have resulted in failure. The Japanese people, besides, have a great repugnance to mutton. The fishing industries are receiving great encouragement, and new appliances of use therein are sure to meet with favor. Cotton-seed oil is being used as a substitute for olive oil in preserving sardines and for other purposes, and should command a larger market here. Of dairy products, condensed milk seems to be alone in great demand. Cheese is repulsive to the Japanese taste, and the use of butter makes slow progress.

CANADA.

NEW TYPEWRITER MARKET IN THE PROVINCE OF NEW BRUNSWICK.

Consul M. J. Hendrick, replying to a New York inquiry, advises that the Moncton district of Canada is a promising field for extension of trade in typewriting machines, as the following indicates:

Business conditions are good, the people generally are prosperous and very friendly to American goods and trade, a large portion of their products being marketed in the United States. Railroad and lawyers' offices, banks, and the larger business offices use them generally, but they are not as much used by smaller dealers, professional men, and private citizens as conditions warrant; one of the reasons for this appears to be that there is not a business place in this city where they are displayed, offered for sale, or made a specialty of, even as a side line; occasionally agents from Halifax or St. John canvass the business portion of the city to sell or exchange machines or furnish supplies, but this is the only way in which the business is presented to purchasers.

One man only in this city [address on file at Bureau of Manufactures] follows the business—at his home—and he makes a specialty of repairing typewriters. In case a person wishes to purchase he takes the order and delivers them. He does the typewriter repair work for the intercolonial railroad, a government road, whose general offices are here. This line prefers visible writing machines.

The proprietor of a new jewelry store here [name filed with Bureau of Manufactures] is inclined to take an agency if he can make satisfactory arrangements. He is a bright young man of good reputation, who would try the sale of machines. He would not like, however, to invest much money, but would prefer to have a manufacturer send him about three machines to be paid for as he sold them.

After a thorough canvass of this city I would advise sending a good salesman to travel through this consular district, which embraces parts of New Brunswick and Nova Scotia, to introduce machines and appoint agents. It is hard to induce people to order a machine which they have never seen in action. The field here is a good one in which to greatly extend sales. The fact that the writer had to correspond with Halifax and St. John when a machine was wanted would tend to show that this district would be a good field for active and intelligent work.

INDIA.

LARGE IMPORTS OF PARTIALLY MANUFACTURED UMBRELLAS.

Consul Albert H. Michelson, of Turin, forwards the translation of a report by the Italian consul-general at Calcutta, from which the following extracts are taken:

The umbrella, which until only a short time ago was used exclusively by persons of high position and by priests, has now come into general use and is steadily increasing in popularity.

The following figures show the importation of umbrellas into India from 1900 to 1907:

Year.	Dozen.	Year.	Dozen.
1900	52,250	1904	16,500
1901	21,425	1905	16,925
1902	21,875	1906	20,025
1903	29,825	1907	18,125

All were supplied exclusively by Great Britain. The figures show a heavy decrease, but the importations of separate parts of umbrellas, such as wooden rods from the Malay Peninsula, Japan, and England; of steel rods and ribs from Germany, England, and Japan; of handles in wood, metal, or celluoid from Japan and Germany; and, lastly, of other parts and the cotton for covering them from England, are rapidly increasing and have created and supply a new industry—that of putting umbrellas together.

Importations of these parts at Calcutta alone were sufficient to make finished umbrellas as follows: In 1904, 6,545,000; in 1905, 5,514,000; in 1906, 10,092,000; in 1907, 10,272,000; in 1908 (first seven months), 7,773,000. The importation of cloths for umbrella covers increased from 3,171,472 yards in 1904 to 7,841,191 yards for the first seven months of 1908.

TRANSPORTATION.

PORT CHARGES.

HARBOR REGULATIONS IN FOREIGN COUNTRIES.

The following reports have been made by consular officers in response to inquiries concerning the charges incurred by vessels with cargoes entering Australian, Chinese, and Japanese harbors:

AUSTRALIA.

ADELAIDE.

RIVER AND HARBOR DUES AND CHARGES.

Consular Agent George H. Prosser furnishes the following information relative to vessels entering the harbor of Adelaide, South Australia:

Light dues: On vessels from and to a port outside the Commonwealth and New Zealand, 6 cents per ton in and the same out. From and to an interstate port or New Zealand, 3 cents per ton in and the same out. Vessels calling at Port Adelaide en route from or to an interstate port with port cargo for or from an oversea port, rebate of 50 per cent on 6 cents per ton dues.

Pilotage: Each ship, not exceeding 100 tons, $12.16 in and the same out. Additional, for every ton register above 100 tons, 3 cents in and the same out, provided that the pilotage of any ship does not exceed $58.40. From any of these rates one-fourth shall be deducted in the case of any vessel towed or propelled by steam, provided, however, that in no case shall pilotage be less than $12.16 inwards and the same outwards. Reduction for same will be calculated in case of ships using a steam tug a portion of the distance in proportion to the distance navigated under sail or with steam.

HARBOR PILOTAGE.

Size of vessels.	Mooring.	Unmooring.	Removal.
For each vessel under 200 tons	$2.43	$1.22	$2.43
For each vessel of 200 tons and not above 300 tons	3.65	1.82	3.65
For each vessel of 300 tons and not above 400 tons	4.86	2.43	6.08
For each vessel of 400 tons and not above 500 tons	4.86	2.43	7.29
For each vessel above 500 tons and not above 1,500 tons	7.29	3.65	9.73
For each vessel of 1,500 tons and over	9.73	4.86	10.95

Ships piloted through Robinson Bridge to or from port dock or company's basin, or to or from corporation wharf through Jervois

Bridge, from one part of the harbor to another, from one wharf to another, or from one part of the same wharf to another, if the ship has to be taken away from such wharf and hauled outside of another ship or ships, shall be charged the rates specified above for a "removal" of ships of like tonnage, such charge to include mooring and unmooring; but if a ship is simply hauled along a wharf without leaving it shall not be charged for a removal, but for a mooring only.

MISCELLANEOUS CHARGES.

Wharfage: The uniform rate is 40 cents per ton weight or 61 cents per ton of 40-cubic feet measurement on all inward wharfage, and the same on all outward wharfage. The special rates on timber are: Deals, battens, logs, and sawn timber, 36 cents per load of 40 cubic feet; palings and pickets, 8 cents per 100; split posts and rails, 61 cents per 100; shingles, 24 cents per 1,000.

Tonnage dues: Sailing vessels loading and discharging at the wharves will be charged one rate only of 6 cents per ton register; steamers trading beyond the States and New Zealand 3 cents per ton.

Stevedoring: There are two large companies operating and as far as I can ascertain the charges are 61 cents per 1,000 superfeet.

Agency: The charge under this heading varies according to the amount of attention the vessel requires. The recognized charge for clearing a vessel in and out at the custom-house is $25.

River: The depth of water in the main channel is 23 feet at low water and 31 feet at high tide and is no less than 250 feet in width. The new dock, however (where mostly all timber is discharged), is only 18 feet at low water and 26 feet at high water. The wharves are, with one exception, privately owned, but there is every facility for discharging.

MELBOURNE.

RIVER AND HARBOR DUES AND CHARGES.

The following information concerning port charges at Melbourne, Victoria, is furnished by Consul John F. Jewell:

Tonnage dues, 12 cents per ton on the net registered tonnage of all vessels arriving with a cargo, and 4 cents if in ballast.

Pilotage is compulsory, and if a vessel is propelled by sails only, 8 cents per ton of the registered tonnage is charged for pilotage from outside Port Phillip Heads to an anchorage or pier in Hobsons Bay, or vice versa, up to a maximum amount of $165, with a minimum amount of $24; if a sailing vessel is towed by steam, a rebate of 2 cents per ton is allowed up to a maximum amount of $35. Steamships up to 2,000 tons, 4½ cents per ton, and for every additional ton exceeding 2,000 tons and not exceeding 7,400 tons, one-third of 1 penny; maximum amount payable, $128; minimum, $12. From an anchorage in Hobsons Bay to piers or river wharf or vice versa, five-eighths of 1 penny (1¼ cents) per ton up to a maximum amount of $12; minimum, $4.86, applicable to both sail and steam.

TOWAGE AND QUAYAGE CHARGES.

Towage is dependent on the weather conditions, and it is estimated that about half the sailing vessels entering the port utilize the services of tugboats. The charges are as follows: From heads to anchorage in

Hobsons Bay, or vice versa, 400 tons and under, via west channel, $73; via south channel, $85; every additional ton, 12 cents. Upon all vessels clearing out in ballast a reduction of one-fifth on the full rate will be made.

From Hobsons Bay upriver and vice versa: Sail—800 tons and under, 12 cents per ton; every ton over 800 tons up to 2,000 tons, 8 cents; every ton over 2,000 tons, 4 cents. Steam vessels using own engines—first 2,000 tons net register or under, $40.87; over 2,000 and under 2,500 tons, $46; over 2,500 and under 3,000 tons, $51; over 3,000 tons, $61.

All vessels berthing at piers or wharves are subject to a charge at the rate of 1 cent per ton, net register, per day for the first six days and half a cent per day after.

STEVEDORING AND AGENCY CHARGES.

A firm of stevedores well known to American ship owners sending lumber vessels here has furnished the following scale of charges:

Description.	Ex-sailers.	Steamer.
	Cents.	*Cents.*
General cargoes ....per ton..	24	24
Full cargoes redwood and redwood pickets ....per 1,000 feet s..	66	63
Full cargoes Oregon pickets and laths ....do....	63	60
Full cargoes sugar and yellow pine and door stock ....do....	60	56

With the above rates responsibility is taken by the stevedore for any damage done by him to ship and for any accident to men in his employ under the employer's liability act of Victoria. An allowance of 5 per cent would be made if a contract is arranged for the whole of the business of a firm.

Agency charges are a matter of arrangement and depend on whether the vessel is one of a line coming regularly to the port or whether a single vessel bringing occasional cargoes. The average fee for a steamer of about 3,000 tons is $122.

GENERAL INFORMATION.

There is ample depth of water in the bay for vessels of practically any tonnage, and the river may be negotiated by vessels of over 5,000 tons. Lighterage is therefore not necessary. It is customary for all lumber vessels to discharge at the river wharfs, necessitating river pilotage and towage.

Customs duty is levied on all ships' stores consumed in port and in Australian waters. Wharfage is not a charge on the ship, but on the goods landed, and is payable by consignees. I attach hereto a statement of the various charges incurred by a steamer of 3,082 tons, net register, which recently entered this port and which was obtained from an authentic source. With the exception of pilotage and towage, the rates of which are already given, these charges would not materially differ in a sailing vessel of the same size. I forward copies of the regulations of the harbor trust which controls the wharves and piers, rules and regulations of the ports in Victoria, pilotage rates, and rates of towage. These documents contain most of the particulars furnished, and in addition much information of a general nature, which, no doubt, will be of interest to American shippers. [These publications are on file in the Bureau of Manufactures.]

EXPENSES OF A STEAMER AT MELBOURNE.

The following statement shows the various charges incurred by a steamer of 3,082 tons, net register, which recently entered the harbor of Melbourne:

Description of charges.	Charges.	Description of charges.	Charges.
Tonnage dues, covering six months	$374.96	Stevedoring and discharging	$1,025.73
Pilotage:		Towage up and down river	102.19
In and out	197.12	Tally clerks discharging and delivering cargo	107.66
River service	24.33	Boatman	9.73
Duty on ship's stores	16.59	Entering and clearing at customs (agent's charge)	25.54
Customs overtime. Harbor trust quay dues (1 cent per ton per day for the first six days, one-half cent per ton per day thereafter.)	21.24	Postage, petties, and telegrams	10.21
Advertising claims	1.46	Agency fees (subject to arrangement), say	121.66
Notifying protest	2.55		
Surveyor	25.54	Total	2,077.13
Claims for pilotage, etc	10.62		

JAPAN.

YOKOHAMA HARBOR WORKS AND PORT CHARGES.

Vice-Consul-General E. G. Babbitt furnishes the following statistics concerning the harbor of Yokohama:

The first harbor works, completed in 1905, proving inadequate, a new programme was inagurated by the finance department in 1906, to be completed in 1912. The first plan, completed, gave Yokohama 1,237 acres of moorage inside the breakwater, while 39 acres of shore were reclaimed. The new plan, now in process, contemplates the construction, by reclaiming some 56 acres of foreshore, additional quay-walls, aggregating 3,702 feet, to admit 13 vessels of a total of 54,500 tons, alongside. Landing stages are increased by 570 feet. In the custom-house premises there are now in process of construction 12 iron sheds, with an area of 381,200 square feet, two wooden sheds, 71,680 square feet, and four three-storied warehouses of 110,250 square feet. There will be a power plant and several electric cranes of 30 tons capacity. A sketch of the general plan of Yokohama Harbor, showing the new quays, can be seen on the pamphlet of the Yokohama Dock Company (Limited), herewith forwarded. [On file in the Bureau of Manufactures.]

It is proposed that a depth of 35 feet at low water be maintained at the new quay extension and approaches. The present accommodations are simply the long pier, which at best can serve but six vessels of not too great draught, the greater number of the visiting ships lying at buoys or at anchor within the breakwater.

The extensions under way will give a total length to the new wharves of 6,822 feet, of which 5,606 feet will be available for vessels.

Two or three lines of railway are to be constructed between the pier and sheds, and between sheds and warehouses. These lines connect with a single line leading to the Yokohama railway station, the total trackage being 11 miles.

Roads are also provided, varying from 48 to 72 feet in width.

In addition to the large electric cranes, there will be altogether 33 movable cranes of from 1½ to 5 tons capacity, also worked by electricity.

COST OF THE YOKOHAMA HARBOR.

The cost of this work, in American currency, is estimated as follows:

Character of the work.	Cost.	Character of the work.	Cost.
Repairing breakwater	$561,290	Power station and dynamos	$185,563
Iron pier	195,874	Office and temporary buildings	50,887
Harbor-office expenses	5,847	Construction of railways	163,084
Machinery, vessels, etc	246,841	Cranes and other apparatus, etc	348,202
Office expenses	159,118	Pavements and roads	358,455
Sea walls and banks	860,999	Electric-light works, waterworks, and sewerage	62,653
Reclamation of land	233,408	Office expenses	368,488
Bridge construction	75,058		
Machinery, vessels, etc	764,864		
Sheds	883,649	Total	6,390,825
Warehouses	866,045		

No data are available for the total cost of building the breakwaters of this harbor now existing; the work was carried on by the special bureau of construction of the Yokohama municipality and Kanagawa prefecture, etc., under the supervision of various government departments and, so far as I can ascertain, no report on this work has been printed. The breakwaters measure 5,383 feet on the eastern side and 6,702 on the northern. There is also a wall of 6,193 feet extending from the end of the northern breakwater to the shore. These breakwaters are now undergoing repairs; it may be of interest to note that they were built with money returned by the United States from the indemnity paid by Japan in connection with the Shimonoseki bombardment during the restoration period.

Dredging is constantly under way, and $85,279 is annually allotted to this work as follows: Dredging, $53,837; repairing, $2,837; machinery, vessel, etc., $24,662; office expenses, $3,945.

DEPTHS OF WATER IN THE HARBOR.

The following table is the result of the survey of the harbor bottoms showing variation of depths:

Depth.	Estimated area.	Area dredged.	Depth.	Estimated area.	Area dredged.
Feet.	*Square feet.*	*Square feet.*	*Feet.*	*Square feet.*	*Square feet.*
35	1,850,400	1,770,948	28	8,989,920	1,237,680
33	3,328,640	3,328,640	24	8,042,400	3,509,568
32	3,911,040	3,911,040	20	5,245,200	2,312,388
30	4,384,800	11,880			

Two dredgers are employed at this work, one of 300, the other of 500 tons, and there is also a caisson used in the deeper sections.

PIER CHARGES AND TONNAGE DUES.

Vessels engaged in foreign trade may moor at the customs pier by paying charges therefor at the rate of 1 cent per ton register for twenty-four hours, fraction of a ton not to be counted. Vessels desiring to remain at the pier more than twenty-four hours shall apply for the permit to do so, surrendering the orginal permit, and paying the charges for renewal at one-half the rate for first twenty-four hours. Fraction of twenty-four hours shall be counted as twenty-four hours. The foregoing tariff rates also apply for vessels mooring along the banks of the reclamation ground belonging to the temporary customs works construction bureau.

The following is a translation of Article I of the tonnage dues law, promulgated in 1899 and still in force:

> When any vessel engaged in foreign trade enters an open port a tonnage due shall be levied on each entrance, at the rate of 5 sen (2½ cents) per ton of the registered tonnage, or for every 10 koku (koku, dry measure, 4.96 bushels; liquid measure, 39.7 gallons) of the registered capacity (of a Japanese rigged vessel). But if the payment is made at once at the rate of 15 sen (equal to 7½ cents) per ton of the registered tonnage or for every 10 koku of the registered capacity, no tonnage due shall be required to be paid at that port for full one year.
>
> The tonnage of vessels of the countries having the method of survey different from that of this Empire shall be converted according to the method adopted by this Empire.

The fee for use of a mooring buoy belonging to the harbor office (apart from the customs, and under the jurisdiction of the director of the local harbor office) is $3.50 per twenty-four hours or fraction thereof. The time is to be reckoned from the hour the buoy is assigned to the vessel by the harbor office.

[A translation of the tariff of the government bonded warehouses of Japan, transmitted by the vice-consul-general, is on file in the Bureau of Manufactures.]

CHINA.

PORT CHARGES AT SHANGHAI AND WOOSUNG.

Consul-General Charles Denby furnishes the following information concerning the charges which vessels incur in entering and clearing at the ports of Shanghai and Woosung:

The tonnage dues on vessels entering the port of Shanghai are, at the present rate of exchange, 22 cents American currency per registered ton. Vessels that neither discharge nor receive passengers or cargo pay no tonnage dues. Fees for pilotage are as follows per foot draught:

To and from—	Sailing vessels.	Steamers.
Gutzlaff to or from Shanghai	$3.78	$2.97
Tungsha to or from Shanghai	3.51	2.97
Woosung to or from Shanghai	1.35	1.35
Gutzlaff to or from Woosung	2.70	2.70
Tungsha to or from Woosung	2.43	2.43

The minimum charge is 10 feet draught, and in calculating pilotage fees fractions of half feet count as half feet.

In addition to the draught charge there is a tonnage charge, which is the same for both sail and steam vessels, and is as follows: Gutzlaff to or from Shanghai, one-half cent; Tungsha to or from Shanghai, one-half cent; Woosung to Shanghai, 0.0027 cent; Gutzlaff to or from Woosung, 0.004 cent; Tungsha to or from Woosung, 0.004 cent. This tonnage charge is leviable only on each registered ton over and above 1,500 tons.

The charge for shifting vessels in port, including mooring and unmooring, going to or from a wharf, buoy, or dock, is 67 cents per foot, plus 13½ cents per mile, parts of a mile to count as a mile.

Applications for a pilot may be withdrawn, but if withdrawn later than 4.30 p. m. for a vessel leaving on that or the following day, a withdrawal fee of $6.48 will be charged. Vessels not leaving within twenty-four hours of the time stated in the application, pay a detention fee of $6.48 and a similar fee for each subsequent twenty-four hours' detention.

Agency charges vary. Some firms ask anywhere from 1 to 5 per cent, while others charge for entering, clearing, and doing all the ship's business generally, according to the nature and volume of the business.

The draught at which a steamer can come to Woosung (the outer harbor) is 29 feet at spring tides and 24 feet at neap tides. The depth of water in the port of Shanghai proper is about 23 feet at spring tides and 19 feet at neap tides.

STEVEDORE CHARGES AND LIGHTERAGE.

In the following statement showing the stevedore charges at Shanghai and Woosung, the quotations for discharging and loading general cargo are per 100 tons dead weight or 40 cubic feet measurement, kerosene being quoted per 100 tons, 22 cases to the ton, and lumber per 1,000 cubic feet.

Description of work.	Charges at—		Description of work.	Charges at—	
	Shanghai.	Woosung.		Shanghai.	Woosung.
Discharging:			Trimming coal, clearing hold, etc., per man per day	$0.25	$0.36
General cargo	$7.29	$9.72			
Cargo from Japan	5.40	....			
Coast cargo	....	7.08	Loading:		
Kerosene oil	4.86	8.10	Tea or general cargo	7.02	9.72
Lumber	.16	.22	Coast cargo for Japan	4.59	....
Foreman clearing hold, per day	.32	.46	Coast cargo	....	7.08

The Shanghai Tug and Lighter Company (Limited) and the Kochien Transportation and Towboat Company (Limited) have a specific tariff for the conveyance of cargo between the upper and lower limits of the harbor, and they are prepared to supply lighters, towboats, and launches either singly or by contract.

SHIPPING SERVICE.

IRELAND.

AMERICAN INTERESTS DEMAND STEAMSHIP ROUTE TO CORK HARBOR.

Consul Henry S. Culver, of Cork, calls attention to the disadvantages resulting to American exporters under the present system of shipping merchandise to Irish ports via Liverpool and urges the establishment of a direct steamship route between the United States and Cork Harbor. His report follows:

There is annually brought to the port of Cork (Queenstown), Ireland, some 750,000 tons of ocean freight by small steamers plying between this port and England, Scotland, Holland, Belgium, and Germany. The portion of this tonnage coming from America has once passed this port on its way over and has been transshipped at Liverpool and brought back here at the additional cost of about $3 per ton. No boats direct from America call here to discharge mixed cargoes. Occasionally a British ship brings over a load of lumber or a load of maize direct from the United States, but most of the maize comes from the Argentine, and the lumber from Canada, Norway, and Sweden. American flour and general merchandise shipped to Ireland must first go to Liverpool, 250 miles farther east, and then be returned here at an additional cost. This places goods coming from the United States at a great disadvantage in this market as compared with goods shipped direct from other countries.

It costs the Continental shipper but little, if any more, to transport his goods from Hamburg, Amsterdam, Rotterdam, and Antwerp to this port than it does the English shipper from Liverpool. But the American shipper has already paid ocean transportation past this port to Liverpool, and must there unload and transship before he stands on an equality with the other two; he is therefore handicapped at the start with this additional cost. Had he landed directly at this port he would probably have entered on nearly equal terms with his competitors, since ocean transportation is cheaper than coastwise.

EXCELLENT DISTRIBUTING POINT—REGULAR SAILINGS ESSENTIAL.

Whatever plan is adopted looking toward direct communication with Ireland should be with the view of making Cork, or some place on Cork Harbor, the distributing point for south and west Ireland, even as far north as Dublin. At Cork there is every facility for unloading and storing any quantity of goods, and that, too, adjacent to the quays and near the various railroad stations; but if the goods are to be sent on from here by coastwise steamers to Limerick and Galway on the west, and to Waterford and Dublin on the east, then ample facilities can be found at the town of Passage, located some 6 or 7 miles nearer the mouth of the harbor, where there are railroad facilities adjacent to the quays, and also large and ample granaries on the water front for storing goods of all kinds. There are also at Passage extensive ship-building and repair works and dry docks, making it an ideal distributing point, and doubtless there would be some saving in harbor dues by selecting this place.

Some American ship company should be induced to undertake this enterprise, carrying exclusively Irish freight; through bills of lading could be issued to any point in Ireland, since transshipment can always be made here to the other ports at very reasonable rates. But in any event tramp steamers can very readily be secured to sail at regular intervals, either every fortnight or monthly, and if it was thought unwise to establish a distributing post, the tramp could unload part cargo here and then proceed to Dublin and Belfast with the remainder.

OTHER ADVANTAGES AFFORDED BY THE HARBOR.

The entrance to Cork Harbor is at Roche's Point light-house in latitude 51 degrees north and longitude 8 degrees west. Directly north of the entrance and some four miles distant is Queenstown, a place of 8,000 population. The harbor is 350 miles nearer New York than Southampton and 250 miles nearer than Liverpool. It is safe at all times and affords anchorage for the largest class of vessels. Immediately outside the terminus of the Great Southern and Western Railway at Queenstown, are quays, landing piers, boat harbors, and deep water quays affording 24 feet at low water spring tides, with much deeper water a short distance from the quay, where the largest Government transports can lie alongside. The deep-water quay is used for the landing and embarking of the American mails and passengers. The customs examining room, large and commodious, forms a part of the station buildings.

Some three miles west from Queenstown, up the river Lee, is Passage, a town of 1,500 population. Here are extensive shipbuilding and repairing works, a large dry dock, and commodious warehouses peculiarly adapted for the storing of grain and goods of every description. These warehouses have a railroad siding in the rear and are built abutting the piled timber wharf in front. The wharf is 300 feet long and 15 feet wide and the water alongside has a depth of some 20 feet, low tide, and a depth of 30 feet can easily be secured so that any vessel can load and unload afloat.

SHIPPING FACILITIES AT THE CITY OF CORK.

The city of Cork is about 15 miles from the mouth of the harbor, but a deep water channel is kept open, accommodating vessels drawing to 24 feet. The commissioners have expended a large amount of money in deepening and improving the river channel and in providing deep water quay accommodation at Cork for vessels drawing 24 feet, and the work of further deepening and widening the river channel is in progress.

There is at present a depth of 14 feet at low water spring tides in the channel from Horsehead to Cork, with a rise at ordinary spring tides of 13 feet and 10 feet at neap tides, affording a depth of 27 feet at ordinary high water spring tides, and 24 feet at high water neap tides. The work at present in progress will give an additional depth of 2 feet for a width of 350 feet to Tivoli, and of 280 feet width from there to the deep water quays at Cork.

The quayage and wharfage at Cork is considerable. At the Victoria wharf there is 19½ feet of water at low water springs, and vessels with a draft of 23 feet can lie afloat at all times of the tide at the south deep water quay. At the north side of the river there is a deep water quay, affording 19½ feet of water at all states of the tide, and vessels lying thereat can discharge cargo by hydraulic machinery into the trucks of the Great Southern and Western Railway Company, thus enabling it to be transported rapidly into the interior of the country.

Large manufacturing and other commercial industries are carried on at Cork and the surrounding neighborhood. For some years, owing to the increased facilities afforded to shipping, the trade of the port shows a substantial increase. The railways at Cork are the Great Southern and Western; the Cork, Bandon, and South Coast; the Cork, Blackrock, and Passage; the Cork and Macroom, and the Muskerry light railway.

Regular lines of steamers ply between Cork, London, Plymouth, Southampton, Liverpool, Bristol, Milford, Newport, and Cardiff; Glasgow, Waterford, Dublin, and Belfast; Antwerp, Amsterdam, Rotterdam, and Hamburg. The vessels employed on these lines are of modern description, and as to speed and comfort are all that could be desired.

Landing piers for passenger steamers have been erected and maintained by the commissioners, and a masting sheer legs of 40 tons' power, in addition to several modern cranes, with lifting power from 5 to 20 tons, have been provided by them within the port.

The pilotage jurisdiction of the commissioners embraces a considerable water area, extending to the Mizen Head on the west, and

Knockadoon Head on the east, and pilot boats provided by them occupy stations along the coast and off the harbor, manned by pilots of experience and knowledge, duly licensed for the Cork pilotage district.

A SUITABLE FIELD FOR AMERICAN GOODS.

This plan of direct communication with Ireland would not only materially lessen the cost of American goods in this market, but it would increase exports and induce a legitimate exploitation of this field by personal representatives of American manufacturers and exporters. The Irish people are good buyers and are inclined to give preference to American products when placed in competition with other foreign goods, provided quality and price are equal. But the market has been neglected because American exporters have too long placed dependence upon their agents in Liverpool and London. Like other peoples, unacquainted with American products, they require ocular proof of the quality and excellence of the goods, but when once convinced they are not slow to adopt them.

There is certainly a field here for many American manufactures and natural products, such as farming tools and machinery, household articles of convenience and economy, cheese, ham, and bacon, fruits, nuts, canned goods, cotton and cotton goods, furniture, and novelties in all lines. This climate is well adapted to the storage of apples and oranges, being always cool, but never freezing hard enough to injure fruit. Large quantities of these fruits are consumed here. The apples now on the market come mostly from Canada, with some from the Pacific coast states, while the oranges come from Spain, Italy, and Turkey.

Passage or Cork should be made the headquarters from which to distribute American flour, corn, and wheat throughout Ireland.

STOVES, FURNACES, MOTOR BOATS, ETC.

Ireland offers a virgin field for the introduction of our stoves and furnaces for heating houses. There is not to my knowledge a dwelling or business house in the south of Ireland adequately heated. They depend altogether upon open grates or fireplaces and consequently there is a great waste of fuel if heat is maintained, or else suffering for want of it. If some enterprising manufacturer would equip some business house or dwelling with one of our modern furnaces and maintain a stock of stoves and furnaces on exhibition a good trade would surely be developed.

Our manufacturers of steel motor boats should here maintain exhibition rooms where the merits of their product may be shown. These boats could be successfully introduced if only the public could see them and witness their operations. Another article that should find an active sale if its use were properly demonstrated is the American peanut roaster.

Now is the time to seek trade in this territory. Ireland is waking up and the new birth means more self-reliance on the part of the people; the country will grow more independent in industrial and commercial development, and while the island will guard its own productions with a jealous care, American manufacturers may secure a large portion of her foreign trade.

[There are on file in the Bureau of Manufactures maps of Cork Harbor, quays at Cork, and photographic views of the harbor, granaries, and warehouses at Passage.]

KOREA.

AMERICAN MERCHANDISE SHIPPED IN FOREIGN BOTTOMS.

In discussing the freight and passenger traffic of Korea, Consul-General Thomas Sammons, of Seoul, brings out the fact that manufacturers in the United States are dependent on the British, the Germans, and the Japanese for carrying American merchandise to that country. He says:

The freight and passenger traffic of Korea is handled, as a rule, through steamship lines touching at Japanese and Chinese ports, mostly through Kobe, Japan, and Shanghai, China. American kerosene oil, however, is carried to Korea via steamers sailing direct from the Atlantic seaboard. Approximately 400,000 cases of 10 gallons each are brought to Korea annually. No American bottoms are utilized at present in this freighting business. Mostly German and British bottoms are chartered for the purpose. The value of the oil consignment aggregates about $500,000 annually. American tobacco is consumed largely in Korea in the form of cigarettes made in China, and American railway materials, mostly steel rails, have been shipped into Korea in British bottoms, the value of the railway material imported into Korea from the United States in 1907 being estimated at $1,500,000. A quantity of American cotton goods and flour is annually shipped to Korea, and a small quantity of concentrates and curios are shipped from Korea to the United States.

Inasmuch as foreign steamers visiting Korean ports must pay a tonnage tax of 12½ cents on the registered tonnage it is not deemed profitable for vessels to enter this trade unless discharging a large cargo. The tonnage tax once paid need not be paid again for a period of four months.

CANADA.

COMPLETION OF ST. ANDREWS LOCK WILL DEVELOP TRAFFIC.

Consul-General John Edward Jones, of Winnipeg, submits the following report upon the construction of the St. Andrews lock and dam in Manitoba:

The most important public work in the vicinity of Winnipeg now engaging the energies of the Dominion government is the construction of a canal with a lock and dam, whereby the raapids of the Red River may be safely passed by the largest vessels which now ply upon the Red River and Lake Winnipeg. This signifies a clear steaming course from the docks of Winnipeg city to Warrens Landing, at the northern extremity of Lake Winnipeg, a distance of 200 miles. It signifies also the possibility of laying down at Winnipeg, without transshipment, the varied products of the Lake Winnipeg region—from the water, fish; from the ground, minerals (as yet unexplored); from the forest, lumber, pulp wood, and fuel; from the wild woods, the native abode of the red man and of the trapper, furs. The commercial importance of this work to Winnipeg can not easily be overrated.

At St. Andrews, 16 miles north of Winnipeg, the Red River describes a great, sweeping curve, at the outer part of which its waters descend in swift eddies over a rough, rocky bottom. In the spring and fall of the year boats of small draft may be safely guided through the current, but in the summer season the diminished quantity of water sometimes causes a boat to become fastened upon the submerged rocks. By this obstruction direct trade between Winnipeg city and Lake Winnipeg is effectively prevented.

This undertaking, which looks to the removal of a barrier to traffic and is designed to benefit not only Winnipeg but also the lake shore and the Laurentian region beyond, was begun in 1900. Under the first contract only a little work was done, consisting entirely in the excavation of earth. It was then abandoned and an interval of inactivity ensued. However, in 1906, a new contract was made with another firm, and the work has steadily progressed summer and winter.

THE WORKS AND THEIR EQUIPMENT.

When completed the whole structure will consist of abutments on each bank of the river; seven large piers a hundred feet apart, firmly founded on the rocky bed of the river; the lock with its outer wall and retaining wall, the latter strengthened by a pier closely joining it and forming a part of its mass; and the permanent dam occupying the spaces between the piers. All the masonry work of the lock and its approaches, of the permanent dam, and of the piers is of solid concrete.

Upon the piers will be imposed a traffic bridge of heavy structural steel. From this bridge structure will be let down a movable dam whose plan is based on a movable type known as the "Cameré curtain dam." Rolling curtains are operated on a number of frames which are let down from above and which rest on step-socket castings embedded in the permanent dam. The upper reach of the curtain will be maintained at an elevation of 21 feet above the lower reach. The dimensions of the lock are: Length between hollow quoins, 200 feet; width, 45 feet; navigable depth at lowest elevation of water over the sills, 9 feet; lift, 21 feet.

The canal terminating in the lock has been cut through the high bluff which fills the inner bend of the river. Its sides will be so graded as to preclude probability of landslides. Entrance piers, an eighth of a mile from the lock, guard the upper end of the canal on either side. The total earth excavation amounts to 270,000 cubic yards; the total rock excavation to 18,000 cubic yards. The total amount of concrete in the finished work will be 49,000 cubic yards, requiring the use of Portland cement, 62,000 barrels. All the cement needed is now on hand.

The masonry work of the lock and of the canal approaches is completed; also 3 piers out of the total of 7; and 600 feet out of the 800 feet of the dam. It is expected that all the work under this contract will be completed in April, 1909, including all excavations for canal and approaches and all masonry work of piers and of permanent dam.

MOVABLE DAM—DOCKS AT WINNIPEG.

The contract for the movable dam has been let at approximately $570,000, calling for completion on the 1st of October, 1909, at which date the lock should be completed and in readiness for navigation. Figures for the steel superstructure are not available. The cost of the work to the end of 1908 approximated $500,000. The total cost on completion will be $1,300,000.

Above St. Andrews, for a distance of 16 miles, the river flows with slow current, having a fall of only 15 feet in the entire distance. The completion of the dam will raise the level of the water through these 16 miles as far as Winnipeg itself, furnishing such depth of water that the construction and use of docks at Winnipeg will be comparatively easy. It is suggested that the silt with which the water of the Red River is laden will be deposited in large quantities within this stretch of 16 miles and will make dredging necessary. On the other hand, it is argued that the annual raising of the movable dam will serve to flush the river bed at a time when the waters have most flushing power and that this will obviate any necessity for dredging. It is a fair inference from the facts above set forth that Winnipeg will become the head of Lake navigation. The merchandise of the Lake region will be handled here. It is estimated that Lake Winnipeg and its shores annually yield products in the amounts and values here stated:

Lumber, 10,000,000 feet	$150,000
Ties, 100,000	45,000
Wood, 15,000 cords	37,500
Fish, 8,000,000 pounds	400,000
Furs, etc	25,000
General freighting	15,000
Total	672,500

Winnipeg is reaching out after this business, and, with the completion of the lock, is likely to get the bulk of it. It will readily be seen what a valuable asset it is, and what an important matter is the handling of it. If the opening of the Red River increases the business of Winnipeg and adds to her already great prosperity, no less will it contribute to the well-being of the residents of the entire lake region, who will be enabled to obtain a share of the varied merchandise of which this city is the greatest distributing center in the Canadian West. A trade route of present importance and of great future possibilities will be opened up.

NAVIGATION EXPERIMENTS.

SCIENTIFIC ATTEMPTS TO KEEP OPEN THE ST. LAWRENCE RIVER.

Consul Frederick M. Ryder, of Rimouski, reports that the possibility of winter navigation on at least a portion of the River St. Lawrence is to be determined during the present season through a series of exhaustive experiments under the direction of Dr. H. T. Barnes, professor of physics at McGill University. The consul adds:

The Canadian department of marine and fisheries will render material aid in conducting the investigations, such as defraying the expense of assistants, providing necessary scientific instruments, and furnishing accommodations on board government ice breakers.

Records will be kept of temperatures of water and atmosphere, strength of ice, observations of local conditions, etc., and all other important factors which will be of assistance in arriving at an ultimate conclusion. One of the government ice breakers, the Montcalm, is now operating in the river in the vicinity of Seven Islands, about 50 miles below Rimouski.

Doctor Barnes is an authority on ice phenomena, and his extensive researches into the nature and cause of anchor and frazil ice has resulted in the adoption of a practical method for combating frazil, so that sluices and flumes may be kept free from ice during the most severe seasons of the year.

CANADIAN SHIPBUILDING.

NEW POLICY OF GOVERNMENT CAUSES YARD EXTENSIONS.

Consul A. G. Seyfert, of Owen Sound, reports as follows on shipbuilding progress at the Canadian lake port of Collingwood:

The first of the new dry docks of the Collingwood Shipbuilding Company is now under way; it will be 400 feet long and ready for operation early in the next season of navigation. The construction of the 705-foot dock will follow. The extensions are to take care of the constantly increasing business now being offered by the Canadian marine interests, which have increased from a few vessels to upward of 100 during the past ten years. The aid given the shipbuilding industry by the Dominion government enacting regulations imposing a duty of 25 per cent on repairs made on Canadian vessels in foreign countries is largely responsible for the vast improvements under way at the shipyards. Since the adoption of the new tariff to protect the ship-repairing industry the shipyard has made more repair work than it could do with the present facilities. When the proposed extensions are completed these yards will have an equipment that is unsurpassed by any other on the upper Lakes.

MEXICO.

INCREASING CARGO TRAFFIC BETWEEN TEXAS AND MEXICO.

Consul P. Merrill Griffith, in the following report from Tampico, gives an account of the activity of a Mexican-American steamship line:

The recently organized Wolvin Line, which took over the steamers of the Mexican-American Company and which has been operating between Texas City, Galveston, and the Mexican ports of Tampico, Veracruz, Puerto Mexico, Campeche, and Progreso, has discontinued its passenger service. The new line intends to devote its attention in the future exclusively to the freight traffic, and in order to further improve and increase its facilities for this business is replacing its old boats with new ones of 4,000 tons capacity.

The boats returning to the Texas ports are loaded chiefly with bananas, oranges, and other fruits. The markets of the United States are especially attractive for the sale of Mexican fruits, and this industry, which is still in its infancy in this country, is constantly growing, and suitable lands for this purpose located near the coast are being rapidly acquired.

CUBA.

IMPROVED HOTEL ACCOMMODATIONS AND STEAMSHIP CONNECTIONS.

Vice-Consul H. M. Wolcott, of Santiago de Cuba, sends the following notes on new hotels and a steamship line:

It can no longer be truthfully said that Santiago does not offer all that could reasonably be expected in hotel accommodations. On January 1 a three-story modern hotel building, containing 35 comfortable and well furnished rooms, was opened to the public. This hotel is situated in the wholesale commercial district, convenient to the railway station and wharves. A few months ago another well-equipped hotel was opened in the central part of the city, and by reason of the competition thus created one of the old established hotels made some needed improvements, installing new sanitary fixtures and improving the service in many respects. The cuisine is very good in all three of these hotels [names of which are filed at the Bureau of Manufactures], so that Santiago may now be said to be well prepared in this particular to take care of travelers and tourists.

In a circular just issued to the public La Compania Cubana de Navegacion, charterer of the steamship Oteri, states that realizing that this vessel does not now unite conditions sufficiently modern to satisfy the growing tourist traffic between this port and Jamaica, the Oteri will be substituted by the Aviles, formerly of the Herrera Line. This vessel has been thoroughly overhauled and comes directly from the dry dock in Habana. She has a speed of from 10 to 12 knots, and is fitted with electric lights and modernly equipped throughout.

BRAZIL.

IMPROVEMENT IN THE RIO DE JANEIRO AND NEW YORK CONNECTIONS.

Consul-General George E. Anderson furnishes the following information concerning the renewal of the Brazilian contract with the Lloyd Brazileiro, with the result that promises of better service between Rio de Janeiro and New York are held out:

The Brazilian Congress, at the session which closed December 31, 1908, renewed the contract of the Government with the Lloyd Brazileiro, the company which has enjoyed a subsidy arrangement with Brazil for the past three years. The renewal is to run for six years. In connection with it the Brazilian company agrees to revise and lower its coasting-trade freights and to extend its service in a number of lines. At present the company affords the sole service between many parts of Brazil.

The chief point of interest in connection with the renewal of this contract is in the fact that it will enable the company to go ahead with its plans for the service it has maintained between Brazilian ports and New York. The company has maintained a monthly service starting from Rio de Janeiro to and from New York. In January and February, 1909, however, two new ships, built in England for this Rio de Janeiro-New York trade, will inaugurate their respective services. These ships are new, well equipped steamers, capable of making 14 knots and of giving high-class service. But under Brazilian law they will continue to stop at Brazilian ports all along the coast. They will afford a great improvement in the service between New York and other Brazilian ports, and in general are to be counted as very notable additions to the New York-Brazilian trade. The ships have about 6,000 gross tonnage, and are said to be very handsome vessels. The contract between the Brazilian Government and the company gives practical ownership of these vessels to the Brazilian Government. Already the company, in connection with the Government has two attractive and good-sized ships in the service between Rio de Janeiro and Manaos on the Amazon, a trip, by the way, almost as long as that from Rio de Janeiro to New York. The ships for the Rio de Janeiro-New York trip are the largest and latest of the company's vessels.

HARBOR IMPROVEMENTS.

FRANCE.

EXTENSION OF BASINS AND DOCKS—VAST EXPENDITURE AUTHORIZED.

Consul A. Gaulin advises that the French National Assembly has passed a law providing for the construction at Havre of a special avant-port, a tidal basin, and a dry dock 984 feet long and 115 feet wide, the following being the particulars:

The tidal basin will be the first one of its kind in Havre, all the existing ones (ten in number) being lock basins. Part of the tidal basin is to have sufficient depth to allow vessels drawing 39 feet of water to moor at every state of the tide alongside a quay measuring 3,296 feet in length. Provision is also made for the construction of additional basins and docks whenever necessary, in order that the harbor facilities may keep pace with the increasing traffic.

The cost of the above improvements is estimated at $16,700,000, one-half of which amount is to be paid by the State and the other half by the Havre Chamber of Commerce, assisted by the city of Havre and the Department of the Seine-Inférieure to the extent of $772,000 and $1,560,000, respectively. It is claimed that this financial contribution of $8,350,000 is the largest ever assumed by a French port for similar purposes. According to the government engineers the improvements should be completed not later than 1915.

CANADA.

NEW STEEL BRIDGE PROPOSED WHICH WILL HELP TRAFFIC.

Consul H. D. Van Sant, of Kingston, makes the following report on a projected steel bridge and the favorable effect it will have on traffic at that Canadian port:

It is proposed to remove the present wooden bridge crossing the Rideau River opposite the Tête de Pont Barracks and connecting with the Royal Military College at Kingston and to erect a modern steel bridge structure about one-third of a mile in length across the Rideau River at Belles Island, lying a half mile farther up the stream. This contemplated improvement will not only give an opportunity for steel bridge contractors to bid on this work, but in a larger sense will increase the harbor facilities of Kingston so as to allow for the safe harborage and dock room for some 200 more vessels. As it is estimated that each vessel harboring in the city means an average of at least $1,000 for every vessel, it will be seen that these additional harbor facilities will mean a considerable item in the city's progress, amounting perhaps to a quarter of a million dollars per year.

The statistics of arriving and departing American and British vessels at this port for the year 1908 show that the commerce of Kingston is entirely divided between the Canadian and American merchant and passenger marine.

RAILWAY TOPICS.

FOREIGN PROGRESS.

FEDERATED MALAY STATES.

THE PENINSULAR CITIES CONNECTED AND COUNTRY OPENED UP.

Consul-General Thornwell Haynes, of Singapore, gives the following account of the building and equipment of the last link of a railway that connects Singapore with the Federated Malay States and all the Straits Settlements on the Peninsula of Malacca:

With the completion in December of the Johore State Railway, which connects with the Federated Malay States Railway, Singapore is now connected by rail with Penang, a distance of nearly 500 miles. The Johore State Railway itself has a length of 121 miles, mostly through swamps and dense jungle.

It is said that the work of construction will be completed under the estimated cost of $6,492,800, or about $53,660 per mile. In this estimate the heavy 80-pound rails and the fine rolling stock form large items. The work throughout was done by petty contract. The ruling gradient of 1 in 100, and a minimum curvature of 3 degrees, meaning a radius of 1,910 feet, has been strictly followed, thus allowing a speed up to 40 miles an hour and providing economical haulage. An interesting feature in connection with the line is the number of girder bridges, which amount to 49, while no less than 409 culverts were built. Of the girder spans there are 19 of 100 feet each, 5 of these being over the Muar River and 3 over the Segamat, the remaining 11 being distributed either as double or single spans over the remaining portion of the line. The largest of the engines that will be used will have cylinders of 15½ by 24 inches, with a pressure of 180 pounds, and drive wheels 4 feet and 6 inches in diameter. The length over buffers is 57 feet 11 inches, and the average weight at driving axles is put at 9 tons 13 hundredweight, while when full it will be no less than 75 tons.

COACHES, STATIONS, ETC.

The coaches are exceptionally well built and reflect much credit upon the Federated Malay States railway department at Kaula Lumpur. For his special use the Sultan of Johore has a car in which there is a smoking room and lounge, a sleeping compartment and bathroom, and a kitchen and dining room. It is a vehicle elegantly constructed and perfectly finished. The engines were built by an English firm and are being put together in the workshops at Johore, while the cars are in course of completion at the central works in Kaula Lumpur.

Owing to the sparsity of the population, stations are at present of a simple type, which can be enlarged when justified by traffic requirements. As a rule there are to be found offices for station masters and waiting rooms for passengers. Tasteful bungalows of wood, on brick pillars, are to be seen at every station. These will be occupied by members of the railway staff. The station yard at Johore is very commodious and has been built with a view to further extension. It comprises an engine shed, with double track 186 feet long, a double-track carriage shed 360 feet in length, a 55-foot turntable, fueling stage, ash pit, water column, goods shed, weigh bridge, and an ample number of sidings for the expeditious handling of trains. From the Johore mains a complete water service has been laid, and commodious bungalows overlooking the station yard have been built for members of the staff.

ROAD BUILDING AND DEVELOPMENT OF PLANTATIONS.

The profit that it is hoped will accrue to the State of Johore by the completion of this new railway will depend upon the construction of approach roads to the various stations along the line. Hitherto nothing appears to have been done in this direction, the corduroy road made by the construction staff for conveying materials to the line now being overgrown and of no practical use. If the plans adopted by other states for the construction and maintenance of good roads should be carried out by Johore, rubber growers would have an incentive to clear the land of some of the valuable timber and commence planting operations. Even if bridle roads were made at the start much benefit would accrue to those desirous of developing the territory, but as matters are now the stations are in the thickest of jungle, with small clearings around, and with no possible means of communication with the surrounding country.

Some good roads have been constructed at Sedenak, 26 miles from Johore, where the Malaya General Company has acquired 5,000 acres of timber land stretching for a distance of 2½ miles along the line. Here 1,500 acres have been cleared and 1,000 are already under rubber and tobacco cultivation. There are 200 coolies employed, and as the work progresses, crushing mills will be put up and additional labor imported. The same company has a large estate 4½ miles from the Johore terminus of the line where the Teberau property of 2,000 acres is being developed. At some points of the line, especially over the first few miles, abandoned gambier clearings and pineapple plantations are noticeable, while the approach to Gemas is conspicuous by small cultivated areas.

CONSTRUCTION MATERIAL FOUND ALONG THE LINE—CAR FERRY.

Much of the brickwork on the line for bridges, culverts, etc., are constructed of brick made in yards at the side of the track, while quarries of laterite and granite supplied material for the permanent way. Timber from the jungle furnished wood for the cross-ties and coaches. What other natural resources may be found during the process of developing the State it is impossible to say, though provision has been made for greater prosperity than is anticipated by constructing the line so that it can be changed at any time from meter (meter=39.368 inches) to standard gage. It is of interest to note that the line has the largest rails, the largest engines, and the largest coaches of any meter-gage railroad in the world.

It will be possible eventually for travelers to cross the Johore Strait and go alongside a pontoon landing stage by the side of the

State railway, and up a covered way to the side of the train. There is at present in course of construction what appears to be a new departure for the East, and what promises to be of great utility. It is intended that goods are to come direct from Kaula Lumpur to the Tanjong Pagar docks at Singapore, being conveyed across the strait on specially built ferry steamers which will take the cars and their contents. On the deck of these vessels there is a track and a traveler, or iron structure which rises or falls according to the tide, and takes the trucks from rail level to the height required.

OPENING OF THE JOHORE STATE RAILWAY.

Consul-General William H. Michael writes from Calcutta that the Malay States and Singapore are now connected by rail, and gives the following account of the new line:

The road has been built by English engineers and by State funds; the rails were supplied by English rolling mills; the engines were built by a Manchester firm, and all other material and equipment, except that procured locally and made in the same company's shops at Johore Bahru, were imported from England. Of course, much of the funds used in building and equipping the line were derived from state revenues. The estimated cost of the road of 121 miles is 11,391,093.10 Straits dollars, or 91,141 Straits dollars per mile. The line will be known as the "Johore State Railway." Thus Indian railways create business for British manufacturers of steel rails, locomotives, rolling stock, and a thousand-and-one other articles of manufacture. At the same time territory is opened which will pour business into an English port, Singapore, and thence on to England.

It is expected that the Johore State Railway will be completed in 1909, when all of the rich resources of the Malay States will be afforded quick and cheap transportation to the Singapore market. The work of construction has met with many difficulties in the way of dense jungle and swamps and marshy ground, yet by the use of piles the most difficult parts of the road have been overcome and trains can run safely at a speed of 40 miles an hour. The last spike driven in the completed portion connecting Johore with Singapore was a silver one, driven by the Sultan of Johore on December 12, 1908, in the presence of the governor, Sir John Anderson, K. C. M. G., and Raja Muda, of Sarawak, and other distinguished persons. The trip from Singapore to Penang may now be accomplished in twelve hours. The construction work on the line was done under the immediate direction of Engineer C. E. Spooner, C. M. G., and Mr. Fryer. After the road was declared formally opened the governor and sultan and party returned to Malacca. The work was accomplished in five years.

BRITISH INDIA.

GREAT IMPROVEMENT IN PASSENGER COACHES.

The following report concerning the change in passenger coaches on India railways and the cause which led to such change is furnished by Consul-General William H. Michael, of Calcutta:

In a report made two years ago on the railways in this country I pointed out the advantages of the American coaches over those in use in India, not only in respect of safety and comfort to the passengers, but also as a matter of economy to the railway company. That portion of the report referring to corridor and vestibule cars was very generally copied in Indian papers. From that time to the present discussion in the press has continued. This, together with various occurrences that could not have happened with modern passenger cars, resulted in the appointment of a royal commission to consider the whole question and report upon a plan of improvement in cars that would render travel safer and more comfortable in India. Several expedients were suggested and acted upon, such as the removal of the continuous footboard and the hand rail, the installation of bell cords communicating with the guards, and several other expedients, but it has been concluded that a complete change in the style of cars must be adopted. The old box car, with its side door, is unsuited to the present rush of travel in India, which is increasing year by year. The old coach, it is conceded by practical railroad men, can not meet the changed conditions, and must give way to cars built on the western modern plans. Actual changes have been made, and a new and safer and better coach has been built and is in use on the Bombay and Bengal and the Central India Railway.

THE NEW CAR.

The new car is built on the corridor plan, and will be substituted as fast as possible on the broad-gauge road running from Bombay northward. It is stated that this coach has the approval of the railway board, and is intended to be the standard type for new rolling stock in India. The coach is of the ordinary bogie type, but is mounted on six-wheeled bogies, which give extraordinary smoothness in running. It is built with a corridor running from end to end of the coach, and from this corridor opens out a series of two-berth compartments, the upper berth being of a most ingenious design, so compactly constructed that at first sight it is difficult to see how it is lowered. In this compartment there is abundant space for two, with all the luggage any two reasonable persons need take into the carriage with them. There is a neat ledge running along the side of the compartment for small articles, and a capacious hatrack. Every compartment has a powerful electric fan, entirely under the control of the passenger, and three electric lamps, one small light being separately switched, so that it may be kept burning all night, if desired, without inconvenience. If the passenger so wills, he can fasten his door, bolt all the venetians or windows, and be absolutely secure against intrusion. If the party extend beyond the accommodation of a single compartment, the sliding door connecting it with the adjoining compartment can be left open and the two compartments thrown into one. There is an electric bell, enabling the attendant to be summoned at any hour of the day or night. At either end of the coach there is a commodious bathroom. This is a roomy cabin, with a good bath half sunk in the floor, an abundant equipment of mirrors, and all toilet and sanitary conveniences. One bathroom is reserved for women and the other for men. There is a compartment for servants, so that they are within call at all hours. In time it is the purpose to add a room where the heavier luggage may be stored and opened when occasion demands. American tourists who have used these new cars speak in the highest praise of them.

OBJECTIONS TO THE NEW CARS.

It has been said that the new compartments are too small and compare unfavorably with the old coaching stock. It is also said that there is not room for luggage. There may be some truth in both complaints. Yet the advantages of the new car vastly overbalance the disadvantages of the old car. With the large and increasing first-class traffic the old type of coach is entirely obsolete, and when crowded is uncomfortable. With the old type of coach practically nothing can be done to increase the amenities of travel or to place further facilities in the way of the traveler. With the new carriages there is no end to the conveniences which can be furnished on long-distance journeys. The Anglo-Indian travels with much luggage, and insists, if he can, on taking most of it into the carriage. Indian hotel accommodation has so far improved that these stacks of luggage are no longer necessary. If the traveler can not do without them, then he must be content to put the bulk of his impedimenta in the brake van. But the railway companies will cooperate with him. The arrangements at all big terminal stations for the booking of luggage are deficient. India has adopted the Continental system in part, but without many of the facilities of that system. The essence of the registration principle is that there shall be ample facilites for booking. Then the moment the luggage is registered it passes direct into the possession of the railway and can not be touched until the destination is reached.

On balancing all these conditions, the new corridor stock marks an immense improvement in the conditions of railway travel in India. It opens out possibilities of further improvement. Moreover, it gives a guaranty of safety; and with coaches of this description, where each compartment can be completely isolated at the will of the passenger and yet immediate communication with the attendant be obtained at any hour, the most nervous person might travel alone with confidence. The railway board have done well to insist upon a uniform pattern of coach of this or similar design, and when the traveling public get used to it they will realize what a great step forward is marked by its adoption.

FRENCH INDO-CHINA.

DISTRIBUTION OF CONSTRUCTED AND PROPOSED LINES OF RAILWAY.

The following information concerning the constructed railways of French Indo-China and the lines of their future development is furnished by Consul Jacob E. Conner, of Saigon:

French Indo-China is about one and a half times the size of France, with an area somewhat in excess of that of Texas. Its greatest length from north to south surpasses the distance from Galveston to Los Angeles. The northern portion, Tonkin, has some mineral wealth, especially the coal mines at Hongai and Ke-Bao, but its principal freight prospects are rice and cattle. Cochin China, at the southern end, is a much more resourceful country agriculturally, but with no mineral wealth. Cambodia, at the north and west of Cochin China, is another country of large possibilities agriculturally, but requiring considerable drainage. Annam and Laos, occupying the intermediate regions, are mountainous, and as yet unproductive, though Annam has an abundance of cattle and Laos has fine forests.

RAILWAYS IN OPERATION.

These facts will account in a large measure for the distribution of the railways, and briefly indicate also the lines of future development. The lines already constructed radiate from Hanoi and Saigon, the capitals of Tonkin and Cochin China, respectively, with a partially constructed line which will eventually join these centers, passing through and connecting the isolated coastal ports of Annam. From this main trunk various short branches have been built and a good many more are in contemplation. In Cochin China the most important of these is the one connecting Saigon and Mytho. Another, which is on paper only, reaches up from Saigon through Pnom Penh, the capital of Cambodia, to Battambang, on the Siamese frontier, and, it is assumed, will be continued eventually to Bangkok. This would traverse a comparatively level and very fertile region, and would connect the two important commercial centers, Saigon and Bangkok.

Another projected line, starting from the coast at Quang-Tri, crosses the mountain range at the pass of Ai-Lao, at an elevation of only 676 feet, and strikes into the interior of Laos at a point on the Mekong or Cambodia River, called Savannaket. Tonkin, though not as rich as Cochin China in natural resources, has at present a greater development of railways, due in part to the excellent facilities the latter enjoys for water transportation, and also to its proximity to the rich Chinese province of Yunnan, into which the French railway concession extends.

The primary object of the trunk line from Saigon to Hanoi seems to be that of military defense. It is being constructed, as are all of the railways of Indo China, by the bureau of public works, and is owned and operated by the Government. If commercial considerations alone were to control, doubtless the southern part would parallel the Mekong northward as far as the pass of Ai-Lao, cross the mountain range, and continue thence northward as at present designed. Again, commercial considerations alone would probably justify the building of the road to Bangkok before either of these lines would be developed, and this projected line, be it remembered, is a private enterprise.

The following is the mileage of the roads in operation:

Lines.	Miles.
Hanoi to—	
Haiphong	93.19
Lao Kai	184.54
Nam-Quan	104.39
Vinh	208.19
Saigon to—	
Mytho	44.11
Gia-Ray	88.26
Tourane to Quang Tri	107.24
Total	819.92
Light railways and steam tramways:	
Saigon—	
Cholon	7.06
Hoc Mon	13.36
Total	20.42

CONSTRUCTING RAILWAYS IN THE TROPICS.

Tropical railway construction presents many problems not encountered in temperate latitudes; hence the experience of the French in meeting these conditions ought to be helpful to others in similar circumstances. The one long, wet season of steady, daily rains; the thorough saturation of the soil, the effects of torrential waters, and then the dry season, when the soil becomes baked and hardened, and the effect of this upon earthwork erected in the wet season are only a few of the new problems. There is also to be considered the kinds of wood available that will stand such conditions, both for track and rolling stock, and that will also resist the termites or white ants; the difficulty of finding a paint that will stand the blistering sun and the constant moisture of the wet season; the requirements of the crops and their seasonal variations; the character and habits of the people and their efficiency as employees, etc.—all these and many more are matters to be weighed by him who builds railways in the Tropics.

Railway construction in French Indo-China began in 1881, with the line from Saigon to Mytho. This line, which has now been in operation twenty-seven years, traverses a low-lying country, where, during the rainy season, no land can be seen for many miles except the railway embankment and the dikes of the paddy fields. The soil is a black, sticky mud in the rainy season, when even the railway embankment is not very solid ground. When not inundated, many bayous and other water courses can be seen to traverse the country. These conditions have made the construction somewhat difficult, and the maintenance burdensome. This remained the only railway in Cochin China until 1891, when the trunk line toward Tonquin was undertaken. The following description applies mainly to the former:

GRADING, BALLAST, AND BRIDGES.

The work of construction is necessarily very slow. There are no horses here larger than ponies. Most of the grading was done by cooly labor. Fortunately, in a country as level as Cochin China, cuts and fills are almost unnecessary; even in crossing the deep and rapid streams of the country the iron bridges are swung scarcely more than 15 feet above the ordinary level of the water, for if the stream overflows it can only spread out over the surrounding country. Hence the grade is never very high except in approaching a bridge over a large stream. In such cases Decauville wagonettes pulled by coolies have been used, and sometimes wagons called "girafes," drawn by engines on a 1-meter gage (39.37 inches), which is that of the railway. In all other cases the coolies, using only spades, pickaxes, and baskets, have made the entire grade. The authorities especially recommend that the first work should be the construction of "cavaliers en chevron," or ditches and embankments, on either side of the proposed grade to lead the water away and dry the ground as thoroughly as possible before beginning the actual work of grading.

The maximum grade so far constructed is only 0.015. The curvature of track allowed is given at 328 feet to 984 feet.

The ballast used is broken granite, and in this respect the roadbed is very substantially equipped. The ties sometimes rest on a bed of broken granite, the spaces are filled with it, and at times they are covered with it almost to the level of the rails. Laterite is very abundant in this country, but is never used for ballast, because, as the authorities say, it pounds up into dust. It is very much like the burnt clay used extensively in the Middle West.

For abutments cement concrete is used, composed as follows: Two parts of broken granite, the pieces no more than 2¼ inches in diameter, to one part of mortar, composed of 1 cubic meter (35.3 cubic feet) of sand and 882 pounds of Portland cement. Granite abutments are not built simply because of the lack of good workmen. For the same reason more cement is used in the concrete than would otherwise be necessary.

WOOD FOR TIES.

To find suitable material for ties has been a serious obstacle to railway construction here, partly because of the scarcity of timber in the vicinity of the construction and partly because of the lack of means for procuring it. That the forests of Laos are rich in valuable hard woods is well known, and the Mekong River furnishes an adequate means of transportation, but the country is practically without sawmills, and almost without axes, and lumber exploitation is in the hands of Chinese and natives. The woods chiefly used are the following: Sao (Hopea wightiana), lim (Baryxyson), sen (Shorea robusta).

These, it is stated, when well laid and with the sapwood removed, may last from four to six years. A soft wood, dau (pronounced "yow"), has been used, but abandoned because it would not last. At present the "sao" is the chief reliance for ties. It costs in logs or billets, $15 per 35.3 cubic feet, while the dau costs just half as much. Steel ties have been tried, but are considered too expensive.

A list of trees suitable for railway purposes, either as ties or rolling stock, found in more or less abundance in Indo-China, is as follows:

Abundant: Sen; sao; vap (Mesua ferrea); dau (Dipterocarpus odorata); lim; go (Palymdia javanica); Cam-ex (Jonquiera fraxinifolia); bang-lang (Lagerstroemia). Scarce: Teak; binh-linh (Vitex altissima); chieu lieu (Terminalia tomentosa); dada-trang (Walsura vilosa).

Sen, sao, vap, lim, and cam-ex are the most available for railway purposes. They are beautiful hard woods, and hence resist the termites. The dau and bang-lang are much lighter and about half as expensive as the hard woods. With the use of creosote, which is a protection against the termites as well as a preservative, these soft woods should be able to outlast the hard woods, and experiments in creosoting are now in progress.

The rails are made of soft steel. In laying them space is allowed between the ends varying with the length of the rail and the temperature. The rails are fastened to the ties by means of screws, not spikes.

The maintenance of the roadbed is not as difficult as in some tropical countries, because this region is not often visited by violent, driving, torrential rains. Furthermore, the soil is a black, sticky humus, and resists washing. Grass is permitted to grow on the embankment to hold the soil.

With regard to methods of maintaining the roadbed, the authorities especially recommend the following: The section gangs should be distributed along the line during the wet season, allowing each gang from 6 to 8 kilometers (3.72 to 4.97 miles) to keep in order. During the dry season it is better for the effectiveness to be secured by numbers, and especially by closer supervision, to collect the gangs into larger groups.

ROLLING STOCK.

There are two types of locomotives in use, the smaller of 350 horsepower, weighing, without the tender, 30 metric tons, the larger weighing 42.4 metric tons and of 475 horsepower. The larger has a capacity of 4 tons of water, and its tender carries an equal weight of wood for fuel.

The freight cars are made of sao wood, which for this purpose will last five years. But there is no great number of them as yet, and no trains of box cars, flats, stock cars, or gondolas, for the principal freight is the marketing that the people carry with them.

Passenger cars, four classes, are made of teak. The inside finish is as follows: First class is said to be mahogany; second class, teak; third, pitch pine; and the fourth class, teak. Apparently the beautiful native hard woods have been drawn upon only to a very limited extent.

For painting the outside of the cars copal was tried at first, but it lasted scarcely two months. Next lacque oil was tried, and with better results, though this lasts only two months, and its cost, about 70 cents per quart, is almost prohibitive. A much better oil and varnish, as well as a much cheaper article, could probably be found in the wood oil so extensively manufactured and used by the natives. They varnish their junks and sampans with it, and a coating of varnish and oil on the inside of their market baskets makes them watertight. A coating will last a year. Both oil and varnish are made from the juice of the Dipterocarpus alatus and several other trees of the same family, all of which grow abundantly here. The price of the refined oil is $8.50 per 220 pounds.

PASSENGER AND FREIGHT TRAFFIC.

It will be observed from the foregoing that both the track and rolling stock are considerably lighter than the standard-gauge roads of the United States, though somewhat heavier than the narrow-gauge roads. So far they have not been required to handle heavy freight, not, at least, in Cochin China, because the heavy freight, which consists almost exclusively of rice, with some logs and live stock, is transported by water. The advantage of the railroad is mainly that of speed, which ranges from 15 to 20 miles per hour. But even so, there is no economic reason why it could not successfully compete with the present excessive cost of transportation of rice from the fields to the mills, though it could not compete with water transportation by means of tugs and barges. These considerations briefly indicate why the railway freight traffic is undeveloped in a country affording abundant ton mileage. Hence the trains have not been differentiated into freight and passenger, for all are mixed. The average train length is not over 400 feet, of which one-third is freight and two-thirds passenger. The freight car is usually a flat, though there are a few covered cars.

But the passenger traffic is to a considerable degree freight traffic. The fourth-class cars, in which Europeans are forbidden to ride, resemble the American box car, both as to inside and outside appearance, except that the entrances are at the ends. It is about 20 feet long, with a bench on each side running the length of the car. The space between these benches is used by the natives for their market produce, consisting of baskets or balances of vegetables, poultry, pigs, etc., all of which are carried to and from the train in the balances swung over their shoulders on a bamboo pole. As they have their own reasons for not wishing to trust it out of their sight until sold, the railways have made this arrangement for their convenience, and have added an open flat car without seats, wherein the produce may be piled, while the owners can watch it from the rear of the adjoining fourth-class passenger car.. A fourth-class ticket gives the right to carry 22 pounds of baggage. The excess is charged at the rate of 7½ cents per metric ton, or 11¼ cents per ton-mile.

Between the first, second, and third class cars there is very little difference; in fact, the same car is often first and second, or second and third, with a partition in the middle, the one end being somewhat more comfortable than the other; there is no part reserved exclusively for Europeans.

The passenger rates on the Saigon-Mytho line, where there is more travel than elsewhere, are as follows, per mile:

First class, 3.1 cents; second class, 2 cents; third class, 1 cent; fourth class, about one-third of a cent.

The authorities state that the first class is to be discontinued, and that the second and third class rates are to be lowered. On the line toward Gia-Ray, which is new, and which traverses a rougher country, the rates are somewhat higher.

FREIGHT RATES.

Freight is classified under five series and charged for at the rate of 6, 5, 4, 3, and 2 cents, respectively, per kilometric ton.

A kilometer is 0.62 of a mile, and a ton is 2,204.6 pounds. Carload rates of 5,000 kilograms (11,023 pounds) are determined by transferring from the series in which the commodity belongs to the next lower series. In the fifth series the charge would be reduced to 1½ cents per kilometric ton. A shipment of less than 440 pounds and 1 cubic meter (35.3 cubic feet) in bulk is charged double its proper rate, and if below 110 pounds it is classified in the first series; if over 110 pounds and containing goods of different series, it is classified in the first. The minimum charge for any shipment is 10 cents.

[A map showing the lines of railway completed, under construction, and projected in French Cochin China, which accompanied Consul Conner's report, is on file in the Bureau of Manufactures.]

THE YUNNAN RAILWAY.

In connection with the foregoing report, by Consul Conner, on the railways of French Cochin China, the following extract from the China Telegraph concerning the construction of the Yunnan Railway may be considered supplementary information. On a railway map, furnished by Consul Conner with his report, a completed railway from Hanoi to Lao Kai, on the border of the Chinese province of Yunnan, is designated, while a line under course of construction is marked running from Lao Kai to Yunnan Fou, in Yunnan Province, "into which the French railway concession extends." The Yunnan Railway treated of in the following extract is that designated in the railway map of the consul as in course of construction from Lao Kai, in Tonkin, to Yunnan Fou, in the Chinese province of Yunnan:

The foreign affairs committee has now presented its report upon the bill authorizing the government of French Indo-China to raise a loan of $10,317,000 in order to meet the expenditure charged to the budget of that dependency in connection with the construction of the Yunnan Railway. The loan is to be guaranteed by the French Government. The reporter of the committee, M. Deloncle, deputy for Cochin China, reviews the financial and other vicissitudes of the enterprise since the concession for building the railway was granted by China ten years ago, and states that in consequence of various alterations in the plans the initial cost of the work will amount to $32,216,000, as compared with the original estimate of $18,687,000. Of this increase in the estimated cost a sum of $10,025,000 is to be borne by the colony and the remainder by the company to which the concession has been assigned. The hope is expressed that work will be superintended with greater care in the future in order that the recurrence of costly errors may be avoided. So far the most difficult section of the line, the track from Lao Kai to Mengtsze, in the valley of the Namti, has practically been completed. The constructors have to reach Mengtsze by next April or May, and with the opening of this section it will become possible to conduct traffic over a considerable portion of the line. It is calculated that the line will have been laid as far as Yunnan-sen by 1910. The report expresses the confident expectation that, notwithstanding the inordinate cost of construction, the Yunnan Railway will yield good returns and materially add to the economic resources of French Indo-China.

CHINA.

BRITISH AND CHINESE CORPORATION RAILWAY BUILDING.

In transmitting an account from the Shanghai Times of the proceedings of the tenth annual meeting of the British and Chinese Corporation, held in London on November 26, 1908, Consul-General Charles Denby writes as follows:

This corporation is an influential group of British capitalists, associated together for the promotion of railway and other enterprises in China. It was promoted by the largest banking institution and the largest commercial house, both British, in the East. These constitute a powerful combination, having the energy, the means, and the foresight to handle in an intelligent way commercial matters of whatever magnitude.

The business of the corporation up to the present has consisted in promoting loans to the Chinese Government for railway construction. The amount so loaned to date is about $40,000,000, but other large transactions are in contemplation and will doubtless be carried through in the early future.

It is easy to see what influence such an organization must have not only on Chinese railway development, but on the orders for material and the control of the personnel rendered necessary by railway construction and management. The orders will naturally go to British manufacturers and the foreign employees will be naturally of British nationality.

British capitalists, manufacturers, and commercial houses realize that the business of the future in China can best be secured by present efforts and that such efforts should be made here, not with a view to immediate profits so much as with a view to securing a foothold for the future. American manufacturers will work at a disadvantage in their efforts to meet competition in the China trade until American money invested in Chinese enterprises and American representatives promoting American interests bear a more equal ratio to the English and German capital and agents engaged in the trade of China. [The printed report of the meeting of the British and Chinese Corporation is on file in the Bureau of Manufactures.]

TIBET.

PROPOSED RAILWAY FROM CHUMBI, BRITISH INDIA, TO LHASSA.

According to the Chinese vernacular press, the Dalai Lama is reported to have requested the Chinese Government to allow him to float a foreign loan for the construction of a railway from Chumbi to Lhassa and for the development of the mines along the route of the railway. It is believed in Peking that the Tibetan pontiff's proposal will be sanctioned by the Chinese Government. If so, Indian trade with Tibet can scarcely fail to benefit materially.

TURKEY.

NEW PLANS FOR CONNECTING INTERIOR CITIES OF THE EMPIRE.

Writing from Beirut, Consul-General G. Bie Ravndal says that the new era in Turkey will be characterized by an industrial revival, part of which will be in railway development, some of the present plans being as follows:

This consulate-general has already outlined the alleged programme of the Government for railroad building in Asia Minor, covering 2,000 miles of railroad to be constructed within the next eight years. Other lines that appear to have been decided upon may be briefly alluded to:

The Hedjaz railroad will not be continued from Medina to Mecca at once, but the line from Jedda to Mecca is to be built forthwith, and as soon as this branch has been completed (about 45 miles) the Medina to Mecca extension (279 miles) will be undertaken at four different points to insure rapid construction.

In the Yemen Province, "the Switzerland of Arabia," a railroad is to be built from Hodeida or Mocha to Sanaa, the capital of Yemen, the distance being about 50 miles. The latter city is situated about 7,000 feet above sea level.

In Palestine it is proposed to connect Haifa and Jerusalem by railroad, following the inland route via Nablus (ancient Shechem). In this way the disagreeable and often dangerous landing at Jaffa will be avoided, and many Samarian and Judean towns mentioned in the Bible will be brought within easy reach of the tourists. The line will be about 110 miles long. Simultaneously, the building of a port at Haifa is expected to be undertaken. In time Haifa is likely to become quite an important seaport, attracting both Christian tourists and Moslem pilgrims (bound for Mecca), besides growing in favor as the seaport of Damascus and Jerusalem and the country opened up by the Hedjaz railroad.

British capitalists are adopting measures for the construction in the immediate future of a railroad from Tripoli, in Asiatic Turkey, to Deir, on the Euphrates, via Homs (the Manchester of Syria), and also of a railroad from Jerusalem to Port Said via Gaza and El-Arish.

AUSTRALIA.

RECEIPTS, EXPENDITURES, AND WORKINGS OF THE STATE RAILROADS.

Consul-General John P. Bray, of Sydney, supplies the following information concerning the workings of the Commonwealth of Australia railroads during the past year:

The accounts of the government railroads in the several States of the Commonwealth for the year ended June 30, 1908, are now completed. The gross revenues amounted to $69,658,681, showing an increase over the previous year of $1,791,248, or of a little over 2.8 per cent. As the capital expenditure increased 2 per cent and there was some additional mileage in operation, it appears that the expansion was not remarkable. There were decreases in Victoria and West Australia.

The working expenditure showed an increase of $2,112,575, and that would have been even greater but for a striking saving in West Australia. The railroad commissioner states that the West Australia lines have been well maintained, but he intends hereafter to increase the outlay on replacement of rolling stock. The following statement shows the receipts and expenditures for the fiscal year 1908, with increases and decreases as compared with the fiscal year 1907:

State.	Receipts.	Increase (+) or decrease (−).	Expenditures.	Increase (+) or decrease (−
New South Wales	$24,060,628	+$1,142,304	$13,211,764	+$1,046,784
Victoria	18,900,230	− 671,957	11,422,912	+ 425,527
Queensland	9,493,719	+ 589,616	5,128,006	+ 686,653
South Australia	8,473,637	+ 807,109	4,718,218	+ 494,072
Northern Territory	70,379	+ 2,161	68,423	+ 3,896
West Australia	7,309,118	− 172,313	4,904,128	− 623,763
Tasmania	1,350,970	+ 94,328	982,142	+ 79,406
Total	69,658,681	+ 1,791,248	40,435,593	+ 2,112,575

There has been a falling off in the net revenue of $341,249. There are four increases and three decreases; of the latter the heaviest, $1,099,483, occurred in Victoria, which state was affected by drought.

MILEAGE AND GAGE.

The following statement shows the mileage open for traffic at the close of the fiscal year 1908, and the increased mileage as compared with 1907:

States.	1908.	Increase.	States.	1908.	Increase.
	Miles.	*Miles.*		*Miles.*	*Miles.*
New South Wales	3,472	20	West Australia	1,943	179
Victoria	3,401	....	Tasmania	462	....
Queensland	3,359	222			
South Australia	1,879	47	Total	14,662	468
Northern Territory	146	....			

As to gage, the Australian railroads present strange anomalies, there being no less than five different gages. These lead to infinite difficulties of interstate traffic, but at the present time there is no prospect of one standard gage for the trunk lines. The question of expense of standardization has been debated for some time, but no definite action has been taken. The following figures show the extent of the gage anomaly: Of the 5 feet 3 inches, Victoria has 3,319 and South Australia 590 miles; all the 3,472 miles of 4 feet 8½ inches are in New South Wales; all of the 82 miles of 2 feet 6 inches in Victoria; all the 23 miles of 2 feet in Tasmania; while of the 7,176 miles of 3 feet 6 inches, Queensland has 3,359, South Australia 1,289, West Australia 1,943, Tasmania 439, and Northern Territory 146.

NEW CAPITAL EXPENDITURE.

New capital expenditure has not been heavy except, perhaps, in New South Wales and Queensland, the latter state having opened a considerable new mileage. Reckoning the charge on new capital at $500,000, the net position was about $850,000 less favorable than in the year 1907, reduces the surplus over interest from about $5,815,000 down to approximately $4,950,000. Of that surplus $2,822,233 accrued on the New South Wales system, $1,348,472 on the South Australia system, and $253,372 on the Victorian system. The Queensland lines also showed a surplus, but those of Tasmania and the Northern Territory showed deficiencies.

The capital expenditure on railroads opened for traffic of the several states is shown in the following statement:

State.	1907.	1908.	Increase (+) or decrease (−).
New South Wales	$217,533,669	$222,318,675	+$4,785,006
Victoria	202,378,639	204,325,312	+ 1,946,673
Queensland	106,279,887	109,864,172	+ 3,584,285
South Australia	66,789,311	67,691,239	+ 901,928
Northern Territory	5,744,392	5,743,317	− 1,075
West Australia	47,125,697	49,292,297	+ 2,166,600
Tasmania	19,190,356	19,357,039	+ 166,683
Total	665,041,951	678,592,051	+13,550,100

On June 30, 1908, there were under construction the following lines: Queensland, 224 miles, and 96 miles authorized; New South Wales, 186 miles, and 391 miles authorized; West Australia, 101 miles.

In addition to 14,662 miles of government railroads there are some 1,400 miles of privately owned railroads in Australia, but of them and their working comparatively little is known. The published statistics do not include the private lines.

ITALY.

EARNINGS, ROLLING STOCK, PURCHASES, AND IMPROVEMENTS.

A recent report by the director-general of the Italian state railways contains some interesting details relative to the operations of the lines during the last six months of 1907, which Consul-General James A. Smith, of Genoa, summarizes:

At the end of 1907 the total length of the lines in operation was 13,344 kilometers (8,291 miles). Gross earnings during the period mentioned above were $41,682,000, showing an increase over the corresponding period of the year previous of about $2,600,000. The gross weight of merchandise transported during the period was 8.32 per cent greater than for the previous year.

On December 31 the railways had at their disposal 3,202 steam locomotives and 10 electric, 103 steam automotors and 50 electric. The number of passenger cars was 8,451, with 2,888 baggage cars, and 79,982 freight cars, without counting 5,026 cars of all descriptions loaned by other roads, foreign and domestic.

The number of employees was increased by 9,000 during the period, so that at the end of 1907 the entire personnel numbered 93,393 fixed agents, with 44,000 extraordinary. Salaries, wages, etc., paid to the employees during the time amounted to $18,926,000, or over 44 per cent of the gross receipts.

During the six months mentioned orders for new material were placed with home manufacturers to the extent of $18,528,000, and with foreign firms for $4,340,000. Furthermore, the expenditure of $9,150,000 was authorized for new stationary property and to better the conditions of such as had become unserviceable. Laws already approved provide for the expenditure of over $100,000,000 during the next five years for improvements, new equipment, and new lines. A large amount will be spent abroad for material. American manufacturers of railway equipment should watch the opportunity. The Direzione Generale delle Ferrovie dello Stato, at Rome, is the proper office to communicate with in reference to contracts.

BELGIUM.

PASSENGER TRAFFIC AND CONSTRUCTION OF NEW LINES.

The following information concerning the receipts from passenger traffic and the proposed construction of new railways in Belgium is furnished by Consul H. Abert Johnson, of Liege:

The number of persons traveling on Belgian lines in 1907 reached a total of 161,184,538, an increase of 946,952 as compared with 1906. The total of receipts for passenger traffic in 1907 amounted to $16,604,589, an increase of $838,738 as compared with 1906.

This favorable situation of the railway lines of Belgium in the matter of passenger traffic is attributed to the largely increasing number of travelers taking advantage of reduced rates offered under certain conditions, the abolition of the additional tax imposed on passengers traveling on express trains, the decrease in the price of commutation tickets, and the increase of two days in the limit for which return tickets can be utilized.

NEW RAILWAY CONSTRUCTION.

The government railway department has under consideration a new line from Diest to Hasselt, with a view to relieving traffic on the line from Antwerp to Liege, via Malines, Louvain, Tirlemont, and Landen, as freight traffic on this latter line from Antwerp to Germany is increasing at a rapid rate. The plans for the construction of this line have received the approval of the ministry of railways, and work will shortly be started. The station at Diest will be completely altered. In order to effect the enlargement of the roadbed and the construction of the new line a large amount of private real estate must be purchased.

The stations at the villages of Zeelhem, Luickhout, Schuelen, Spalbeek, and Kermpt will be enlarged, new tracks will be placed, and the existing arrangement of tracks at these stations will be totally modified, as well as that of the freight yards. At the station of Kermpt the steam tramway line from Hasselt to Herck-la-Ville will be connected with the station by a special track. At Hasselt the station will be enlarged to accommodate the increased number of tracks that will be required. Traffic facilities are now inadequate, space being altogether too limited for properly handling the trains. The enlargement of the station will greatly improve conditions in this direction and place the station in a position to meet the demands of up-to-date traffic.

The doubling of the track from Liers to Liege will be commenced shortly, as well as the work on that from Tongres to Beverst, and the work on these lines will be pushed with all possible speed.

FREIGHT-TRAFFIC IMPROVEMENT.

The realization of the projected improvements on the line from Hasselt to Liege will necessitate the enlargement of a number of stations, notably those of Tongres, Liers, etc.

Pending the completion of this new line, the railway management will organize a temporary freight service composed of 138 cars, drawn by 3 locomotives of a class known in Belgium as the 32 type superheating, which are to be eventually replaced by a single locomotive of the class known as the decapod, of 5 linked axles. The railway department has already tried this new system since January 1, on the line from Antwerp to Luxembourg, via Schaerbeek-Namur-Arlon, and the experiment has resulted in the suppression of 8 freight trains operated under the old system, with their corresponding working force, and a consequent saving of something like $12,000 in the expenses of the service. At the present time 4 high-speed trains per day are running between Antwerp and Luxembourg.

GERMANY.

NEW FREIGHT CAR UNION WILL SIMPLIFY OPERATIONS.

Consul Thomas H. Norton, of Chemnitz, furnishes the following account of a new organization to economize the system of the inter-railroad handling of freight cars in Germany:

The great majority of railway lines in Germany are the property of the different States composing the Empire. Hitherto the supervision and control over movements of freight cars have been exceedingly cumbersome and expensive. Each car, on passing from the territory of the line owning it, or on crossing later the boundary between two States, has required an exchange of receipts. Exact regulations prescribe the time of absence outside the home territory, and require empty cars to be sent back, even if no return load has been secured before the expiration of the time limit. A tariff for the rental of cars when conveying freight over lines other than those belonging to the owning State is rigidly enforced. Practically the same rules control the movements of freight cars between the different German States as between the various European countries. The system involves an enormous amount of bookkeeping and adds appreciably to the work of station officials. During 1907 $4,600,000 were paid between Germany railway lines for freight, car rentals, and this total was made up of a vast aggregate of exceedingly small sums. At the same time the transport of empty freight cars to home territory exceeded 125,000,000 car miles.

In order to do away with all the loss and expense involved by existing conditions, the directors of the various state railways have organized a general freight-car union. The movement is quite in harmony with the general tendency to centralize and unify the great economic factors in the German Empire and is in line with similar tendencies in the United States to exercise a national supervision over the condition of interstate transportation.

PLANS OF ORGANIZATION.

The head office of the new organization will be at Berlin, and thence the entire management of the freight cars of the different companies, now numbering over 500,000, will be so directed as to bring about the highest economy in the utilization of this important section of the rolling stock. Territorial lines will disappear, and the railroad network of the Empire will be divided up into natural districts. Each district will be assigned its quota of cars, and the distribution within the district will be controlled by the local traffic manager. The effective distribution of rolling stock between the different districts will be directed from the Berlin office, in order to meet the varying demands of individual sections, according to the season of the year, or in response to unusual local industrial conditions. Needed repairs on cars will be made at once in whatever district they be found necessary.

Future additions to the stock of cars will be made from funds supplied by the constituent members of the union, and standard types will be adopted.

There will be a single annual adjustment of accounts between the constituent lines, to balance up the inequalities between cars furnished and cars used by each line. This item of bookkeeping will be, however, of the simplest character, being based upon the year's traffic returns. It will involve only a few days' work on the part of an expert. Arrangements are being made to bring the new plan into operation on April 1, 1909.

There is no question that this centralization of management will notably increase the effective value of the present equipment of German railways, and introduce a most desired economy and simplification in every feature of the freight service.

UNITED KINGDOM.

DEVELOPMENT OF STREET RAILWAYS.

Consul-General Robert J. Wynne, of London, furnishes the following information concerning the street railways of the United Kingdom, as given in a recent report of the British board of trade:

Since 1878 the length of lines open for traffic has grown from 269 to 2,464 miles; the capital expenditure from $20,475,069 to

$331,894,901; the net receipts from $1,123,947 to $22,614,440. The number of passengers carried during the fiscal year 1907–8 is equal to about sixty times the estimated population, representing 60 journeys per annum for every inhabitant of the United Kingdom. Compared with 1906–7, passengers increased by 170,725,408. The following gives a comparison in certain particulars with the previous year:

Description.	1906–7.	1907–8.
Miles open	2,894	2,464
Cars running	11,746	12,049
Passengers carried	2,454,807,487	2,625,532,896
Electrical units used	369,362,473	431,969,119
Gross receipts	$57,659,144	$60,537,435
Working expenditures	$35,835,748	$37,922,994
Net receipts	$21,828,262	$22,614,440
Relief of rates	$1,447,570	$1,555,703

Of the 305 undertakings, 177 belong to local authorities and 128 to companies or individuals. Local authorities who work, as well as own, their tramway undertakings made a net profit of $15,994,789 on the year's traffic, out of which, in addition to setting aside $1,555,703 in relief of rates, they applied $4,459,130 toward the reduction of tramway debt, and carried $3,545,990 to reserve and renewal funds. In the cases of three local authorities and seven companies, the returns show an excess of working expenditure over gross receipts.

Municipalities work 1,461 of the 1,620 miles owned by them, the remaining 159 miles being leased to companies.

Electric traction is steadily displacing other forms of motive power. The following table, showing the number of miles worked by the various forms of traction, indicates how rapidly the once familiar horse cars are disappearing:

Motor.	England and Wales.	Scotland.	Ireland.
Electric	1,923	235	128
Steam	23	....	29
Cable	4	23	....
Gas	4	....	....
Horse	83	4	7

PLYMOUTH.

RAILWAY DEVELOPMENT IN CORNWALL DISTRICT.

Consul Joseph G. Stephens, of Plymouth, advises that the British authorities have recently confirmed the amended order for the construction of the Callington Railway, as promoted by the Great Western Railway Company.

This line, the construction of which will, it is stated, be proceeded with forthwith, will branch off from the main Great Western road between Saltash and St. Germans stations, and passing through the parishes of St. Stephens, Botusfleming, Pillaton, St. Mellion, and St. Dominick, terminate at Callington on the north side of the town, near the main road to Launceston and North Cornwall. This extension coupled with the recent development on the part of the London and South Western Railway from Bere Alston, Devon, through north Cornwall to Callington will encircle and open a large agricultural and mining district.

RUSSIA.

REVIEW OF THE RAILWAYS OF THE EMPIRE.

The following information concerning the expenses, mileage, proprietorship, and traffic of the railways of Russia is furnished by Consul Hunter Sharp, of Moscow:

During the last ten years the Russian Government has spent $944,510,000 on increasing the efficiency of the railways and constructing new lines.

At the beginning of 1908 the entire railway system reached a length of 40,111 miles, having been increased during 1907 by 1,173 miles, principally made up of new government lines in the north of European Russia, connecting St. Petersburg with Viatka, thereby establishing a direct line from St. Petersburg to Tcheliabinsk, on the Siberian Railway, via Vologda and Perm.

The proprietorship of the Russian railways is divided thus: Government, 27,263 miles; private, 11,439 miles, while there were 1,409 miles of local railway in 1907. During 1907 there were 1,410 miles of railway under construction, of which 555 miles consisted of a second track along the Siberian Railway, while during the present year the length of the government railways will be considerably increased.

The passengers conveyed in 1907 on the government railways numbered 96,028,000, and the goods transported weighed 106,134,613 tons. The total receipts amounted to $251,835,000.

THE NEW SOUTHERN SIBERIAN TO BE BUILT BY A PRIVATE COMPANY.

There is another project on foot, the proposed Southern Siberian Railway, to be constructed by a private company. The proposed route of this railway line starts from Omsk, running south along the left bank of the Irtish River to the station Voskresensk-Pier, then crossing to the right bank of the Irtish to the city of Pavlodar. From this point the railway is to branch off in two lines, the southern branch running along the Irtish River and terminating at Semipalatinsk; the eastern branch running from Pavlodar to Barnaul, through the Kuludinsk steppe, on a perfectly straight line for a distance of about 107 miles, and reaching the isthmus between the lakes of Kuludinsk and Kutchuk. From there it is to be laid through the villages of Ovetchkin, Pavlovsk, Shachovsk, to the city of Barnaul.

The total length of this railway will be 757 miles, and the cost of construction is estimated at $25,750,000. The nominal capital of the company is to be $34,257,800, $3,900,000 cash capital, and the remainder, $31,167,800, to be raised on shares, bearing 4½ per cent interest. The term of the concession has been fixed for eighty-one years, the Government reserving the right to acquire the railway from the company at expiration of twenty-five years.

By the building of this line a new era will be created in the development of trade in southern Siberia. It will bring the Semipalatinsk - Barnaul - Ust-Kamenogorsk - Altai - Kirgeese steppes and Eskibas-Tuzsk coal-mining districts in touch with the Trans-Siberian Railway, affording facility for the shipment of butter, meat, hides, lumber, wool, and coal.

Already there are many thriving cities in Siberia which have been opened up to foreign trade by means of the Trans-Siberian Railway.

When a second track for the existing Siberian line, costing $72,100,000, and a new line in Siberia to join the main line with the Far East on the Pacific, with an approximate cost of $133,900,000, have been completed, and the projected line from Omsk to Semipalatinsk and Barnaul has been built, the utility of the railway system in the Empire will be greatly enhanced.

A NEW LINE AND THE EXTENSION OF SEVERAL LINES.

Consul James W. Ragsdale, of St. Petersburg, furnishes the following information relative to the building of a new railway and the extension of several railways in the Empire:

A new railroad will shortly be built between St. Petersburg and Keenel, thus giving the shortest junction of this city with the southeastern and central Asiatic territories, and allowing all products of these rich territories the nearest issue into the Baltic Sea. The total extension of this line will be 1,320 miles and the cost of construction over $50,000,000.

The ministry of ways and communication has under consideration the extension of several railways during the year 1909, and to that end proposes an expenditure of $30,250,000, partly as follows: The Amur Railway, $7,650,000; reconstruction of the hilly part of the Siberian Railway, $5,600,000, and for a second track of the same, $6,630,000; completion of the Ekaterinburg-Perm line, $2,900,000; for the construction of a new bridge across the Volga, near Yaroslav, $515,000, etc.

MEXICO.

CONSTRUCTION OF A RAILROAD FROM DURANGO TO MAZATLAN.

Consul Charles M. Freeman, of Durango, furnishes the following information concerning the construction of a railroad from that city to Mazatlan and the resources of the country through which it will pass:

On January 7 a contract was signed in the City of Mexico by the National Lines of Mexico, the State of Durango, and the Maderero de Durango Company whereby the National Lines of Mexico (the Merger) obligated itself to begin the construction of the railroad from Durango to Mazatlan within four months, and to have completed 62 miles within twenty months. The basis of this agreement is that the State of Durango and the Maderero de Durango Company guarantee 6 per cent interest on $4,000,000 Mexican ($1,992,000 United States currency) for ten years. This contract does not call for the completion of the road to Mazatlan, but for 62 miles in any case, and as much more as can be completed for $4,000,000, exclusive of rolling stock. The survey of this route has been completed, even the grade stakes are in place, and it is expected that work will commence before April 7. In the first 62 miles no great obstacles to easy building will be encountered.

The building of this road has been brought about by the Maderero de Durango Company to secure an outlet for timber, the company owning several hundred thousand acres of the best pine timber in all Mexico, much of which is over 3 feet in diameter, and the trunk clear of limbs to 70 and even 100 feet, and by the State of Durango, to open up other timber and agricultural lands, as well as mining districts.

The route will be a little to the south of west from Durango, and the principal freight will be, at the start, timber, but mines in the southern and western part of the State will ship their ore and receive supplies over this road. The agricultural industries will also contribute to the freight.

CONSTRUCTION OF THE ROAD.

The road will be constructed and rolling stock furnished by the National Lines of Mexico, to which all communications looking toward the sale of supplies needful in railroad building should be addressed. Their offices are in Mexico City.

Outside of the timber lands owned by the Maderero de Durango Company, and in the immediate vicinity of what will be the present terminus of the road, are many acres of valuable timber. The Maderero de Durango Company will commence the manufacture of lumber at once, and as the whole region is a virgin forest, supplies will be needed from the ground up. The present address of this company is Durango, and it will operate and maintain the same after the road is built. It is estimated that more than 2,000 men will be placed at work and that $4,000 (Mexican) will be paid daily for labor. As Mexican laborers spend all they earn, the merchants of Durango are looking forward to a sharp boom in business while the construction of the road is under way.

All this should mean to the exporters of the United States an opportunity, not only in railroad and milling supplies, but in the general trade of this district.

THE PACIFIC AND GULF UNITED.

NEW TRANSCONTINENTAL LINE WILL DEVELOP MARKETS.

Consul Arminius T. Haeberle sends a more extended account of the new Guadalajara-Colima-Manzanillo Railway, which is the final connection from the Pacific to Tampico on the Gulf of Mexico, and of which previous reference has been made in Daily Consular and Trade Reports. The consul says:

The new line to the interior of Mexico means a shorter route for merchandise coming from China and Japan and the Pacific coast States in the north, and new markets will probably be found for certain classes of California products, such as California wines shipped through the port of Manzanillo.

On the other hand, this port will become the outlet for many classes of food products from the States of Jalisco and Colima that can not be raised in the more southern States of Mexico on the Pacific. In the State of Colima very few vegetables are raised, although the soil is very fertile; but it is hoped that the opening of new markets in the south will stimulate this industry in Colima.

The completion of the Guadalajara-Colima-Manzanillo line, or the Manzanillo extension of the Mexican Central, as it is sometimes called, means the successful execution of an extremely difficult task. The total cost for grading, bridges, masonry, tunnels and track was

$6,356,970 gold, of which $4,250,000 was expended for 42 miles in the mountain section between Tuxpan and Colima.

PROPOSED RAILWAY FROM MONCLOVA TO CHIHUAHUA.

Consul T. W. Voetter, of Saltillo, furnishes the following information concerning a new railway to be subventioned by the Mexican States of Coahuila and Chihuahua:

It has been published in Mexican newspapers that the promoters of the new railway projected from Monclova, Coahuila, to Chihuahua, in the State of the same name, have been assured that the State of Coahuila will grant a subvention of $2,500 gold per kilometer (0.62 mile) for that part of the line situated in that State, and that it is expected that a subvention will also be obtained from Chihuahua. In case this is satisfactorily arranged it is stated that construction of the new line will begin shortly. Later conversation with parties usually well informed in regard to these matters has not confirmed the news regarding the amount of the subvention, but the parties believed that some subvention would be granted by both States, and that the personnel of parties interested in the line was an indication that it would be built.

CANADA.

MANITOBA.

CANADIAN NORTHERN RAILWAY ENTERS THE UNITED STATES.

Consul-General John Edward Jones, of Winnipeg, furnishes the following information concerning the advantages secured by the Canadian Northern Railway in gaining entrance into the United States:

The Canadian Northern Railway has recently purchased the Duluth, Rainy Lake and Winnipeg Railway from the Virginia Lumber Company, by which it has secured an entrance into the United States, such as its other Canadian rivals—the Canadian Pacific Railroad and the Grand Trunk Railroad—have possessed for years. From the village of Virginia the road runs to Duluth, a distance of 60 miles; hence it will have connection with Chicago, the South, St. Paul, and Minneapolis. The only portion of its system which has hitherto extended into the United States has been 45 miles of its main line to Winnipeg. which runs south of the Lake of the Woods.

The Duluth, Rainy Lake and Winnipeg Railway was constructed and operated by large lumber interests. A year ago or less it was extended to Fort Francis to tap the Canadian Northern, which has been running over it for a couple of months and using the Duluth, Mesaba and Northern Railway from Virginia to Duluth. The new purchase will enable the Canadian Northern to reach Duluth by a much more direct route, and give it a practical monopoly of the timber-carrying trade of that region. In addition to this the road will have its share of the enormous output of iron ore, as Virginia is the center of the Minnesota iron district. It is reported that a single line, the Duluth, Mesaba and Northern, carried 13,000,000 tons of ore from Virginia to Duluth last year.

The new road will also provide a freight connection for the Canadian Northern between Chicago and Winnipeg, and assist in opening up the country around Fort Francis and the chain of lakes and rivers in that district.

NOVA SCOTIA.

PROPOSED BUILDING OF THE NOVA SCOTIA EASTERN RAILWAY.

The following information concerning the expected building of a new railway in Nova Scotia by an English syndicate is furnished by Consul-General David F. Wilber, of Halifax:

It is reported that one of the largest lumber companies in the province of Nova Scotia, owning 405,000 acres of timber lands and eight mills, is about to change hands, the purchaser acting on behalf of an English syndicate, the purchase price being $1,567,500. The different properties are located at 8 different points, 7 east of Halifax Harbor and 1 west, near Yarmouth. Of the total acreage 345,000 sold for $3.50 per acre, and a 60,000 acre tract near Yarmouth at $6.60 per acre. The price includes the eight mills of the company. This is claimed to be the largest deal ever put through in Nova Scotia for timber lands. The eight mills are said to have a capacity of 500,000 superficial feet of lumber per day, or a minimum of 100,000,000 per year.

It is further reported that the transaction insures the building of the Nova Scotia Eastern Railway, which line has been for a long time projected, and the building of which would open up all the properties of the lumber company. It is understood the new company proposes to erect a large pulp mill, probably on Halifax Harbor.

ELECTRIFICATION OF GERMAN RAILROADS.

PRELIMINARY PLANS FOR CONVERTING NATIONAL LINES TO NEW POWER.

Consul Thomas H. Norton writes from Chemnitz that for several years past German engineers have been actively engaged in the preliminary studies for an ultimate change to electricity as the motive power in ordinary railway transportation of passengers and freight. Mr. Norton discusses the proposition as follows:

The technical problems connected with the safe and economical transmission and application of the electric current have, one after the other, been satisfactorily solved. The decisive experiments in 1903, conducted by the Prussian railway authorities in connection with the General Electrical Company, on the line between Niederschönweide and Spindlersfeld, showed conclusively that the proper motor had been devised to use effectively the alternating current, which alone can serve for the transmission on a single conductor of high-tension currents.

Since then no material advance has been made from the mechanical standpoint, nor has much been required of the electrical inventor. The new motors have rendered admirable service when utilized for urban and suburban traffic, and when applied on short lines. It is now a purely economic question whether the time has arrived to discard the time-honored steam locomotive after its eighty years of faithful service and replace it by the electrical locomotive as sole motive power for extensive railway systems.

PRUSSIAN BASIS FOR THE PLAN.

The matter is now one of keen discussion among American railway managers. The results of an exhaustive study by Ph. Pforr, a prominent German engineer, on the subject may be of timely interest, and they are herewith briefly summarized.

The study embraces the proposed electrification of the Prussian state railway system, which includes also the railways of the Grand Duchy of Hesse. The statistical data of the year 1904 are used throughout as a basis for calculation. The dollar is valued roughly at 4 marks. At the close of 1904 the manager of these railways reported as follows on the condition of the system and the results of the operation for the year:

Capital, $2,250,000,000. Length of single track, 12,785 miles; length of double track, 8,231 miles; a total length of 21,016 miles. Rolling stock, 14,770 locomotives, value $167,000,000; 27,367 passenger cars, value $82,500,000; 313,909 freight cars, value $220,750,000. Total transportation, 83,200,000,000 mile-tons (short tons), including 880,000,000 mile-tons, transportation of coal used by locomotives.

EXPENDITURE: Management, $12,859,000; station service, conductors, brakesmen, $57,451,000. Maintenance and guarding of road, (*a*) wages, $21,688,000; (*b*) material, $32,324,000. Motive power maintenance and renewal of rolling stock, (*a*) wages, $38,213,000; (*b*) construction material, $9,519,000; (*c*) renewal of locomotives, $7,794,000; (*d*) renewal of cars, $8,308,000; (*e*) coal for locomotives, $18,789,000; (*f*) other outlays, $13,398,000. Miscellaneous expenses, $21,453,000; a grand total of $241,796,000.

RECEIPTS.—Passenger and express, $110,253,000; freight, $268,926,000; divers, $25,304,000; a total of $404,483,000.

In order to change the motive power on the Prussian railway system from steam to electricity the chief cost lies in the addition of the necessary equipment for conveying the current and in the substitution of locomotives.

THE TRANSMISSION QUESTION.

It is essential for the economical transmission of the electric current in connection with railway use that it leave the power houses under a tension of 50,000 volts, and that this be lowered to 15,000 volts when directed into the conductors, which supply directly the locomotives on a line. Transformers for this purpose are located most advantageously at distances of 25 miles along a line. On a double track a 5,000-kilowatt equipment is required; on a single track one of 3,000 kilowatts suffices. The cost of transformers per mile is calculated at $1,436 for double-track lines, and at $862 for single-track lines. The total cost for transformers and accessories on the entire system, as detailed, would be about $25,000,000.

Overhead wire conductors cost $3,830 per mile of single track. This amounts to $167,500,000 for the entire net work of 21,016 miles of single track.

The cost of cables for distributing the current from the power houses to the transformers depends upon the location of the plants. Assuming distances apart of 125 miles, the entire system would require 30 generating plants. This distance allows a mutual rendering of assistance in case dynamos are disabled. Upon this basis there would be an average cost per mile, for distributing cables, of $1,530 on single-track lines, and of $2,490 on double-track lines. The entire equipment would involve an outlay of $42,500,000. These three items constitute a total investment for permanent equipment along existing railway lines of $234,500,000.

In calculating the expense of changing to electric locomotives, it is not assumed that each existing steam locomotive must be replaced by an electric counterpart of equal power. Much time is required in the case of the current types of locomotives for a variety of operations, which disappear completely when electricity is employed. These operations are taking on water, heating up the boiler, and changing direction on the turntable. Evidently fewer electric locomotives are required to accomplish the same amount of work.

On the entire system in question, during 1904, 31,376 men were employed in locomotive service. As each man has one day of rest every two weeks, the number would suffice to man simultaneously 11,500 locomotives, assuming that 3,000 have double crews. During this year 14,770 locomotives were in use. This indicates that on an average 22.5 per cent of the total number of locomotives are not in active use at a given time. As, however, the average daily service of a locomotive is twelve and eight-tenths hours, and four hours are consumed in the cleaning, heating, etc., as described, it is plain that but 54 per cent of the total number of locomotives are simultaneously engaged in moving trains.

This percentage gives a basis for calculating the required number of electric locomotives. Allowing 16 per cent for the average number of locomotives temporarily withdrawn from service for repairs, it would be necessary to replace but 64 per cent of the present stock by electric locomotives.

LOWER NET COST OF ELECTRIC ENGINES.

Steam locomotives cost about $0.1186 per pound, as compared with $0.1834 for the electric competitor. The latter is, however, relatively much lighter. An electric freight locomotive of 600 horsepower weighs 46.3 short tons (92,593 pounds). The current types of locomotives of the same power weigh 62.7 short tons (125,433 pounds), empty, and 83.75 tons when charged with water, etc.

On this basis the entire railway system would require an outlay of $133,750,000 for electric locomotives to replace the present supply, which cost $167,000,000. In order to eliminate all possible cause of error, the expense of the new equipment is placed at $152,500,000.

Assuming that the steam locomotives now in use could be diverted without loss to other lines, or be continued in service during a gradual electrification until worn out, there would be a saving on this account of $14,500,000.

No estimates are prepared for generating stations, as it is simpler to consider the normal cost of the electric current as now furnished throughout Germany. It is assumed, also, that electricity could be advantageously supplied by private parties. At present the electric current, when yielding 4 per cent on the investment, costs 0.833 cent per kilowatt hour.

Turning to the cost of maintenance and operation, it is estimated that no material changes would be involved in the outlay for general supervision, station management, and train crews. A decided increase in expenditure is required, however, for the guarding and maintenance of the electric conductors and transformers.

COMPARATIVE COST OF MAINTENANCE.

For maintenance and repairs of cables and wire conductors an annual expense of 2 per cent on the original cost must be expected, or $4,250,000. For the transformers these charges amount to 5 per cent, or $1,250,000.

Per contra, material economies on current sources of expense are to be expected. These result from the elimination of all existing outlay in connection with the supply of water and coal to locomotives. Diminished cost of maintenance for tunnels, stations, and engine sheds come also into consideration. All told, these economies are estimated at $1,250,000 per annum. The total increase in cost of maintenance would hence be $4,250,000.

Quite different are the figures showing the cost of running trains and maintaining the rolling stock in good condition. Each locomotive is now in the hands of its crew, for 12.8 hours daily, on an average. Of this time, 4 hours are devoted to cleaning, taking on coal and water, heating, etc. In the case of electric locomotives, 31 per cent of the cost of labor is eliminated.

Of the locomotive crews, numbering 31,276 men, three-eighths are engineers and five-eighths are firemen. Engineers earn annually $675, firemen $412. The total annual earnings of this staff are $15,950,000. The saving of 31 per cent would reach $5,000,000 per annum.

FEWER EMPLOYEES NEEDED—COAL SAVING COST.

A still more important economy is assumed from the fact that ordinarily but a single man is required to guide an electric locomotive. The services of all employees now occupied as firemen become entirely superfluous. This involves an additional saving of $5,225,000. It is planned that the conductor of a train shall normally be stationed on the locomotive, and that he shall be prepared to meet any exigency arising from an accident to the engineer, or other unforeseen emergency. The simple character of the devices for controlling the movements of an electric locomotive renders it exceedingly easy to train a conductor or brakeman, so that he can readily replace an engineer in case of necessity.

The cost of maintaining electric rolling stock is notably less than in the case of steam engines, and is estimated as at least 20 per cent below the latter's requirements. At present the item is $10,500,000. Here there would be an economy of at least $2,000,000 per annum.

The annual coal bill of the Prussian Railway system is $26,000,000. Of this sum, $18,789,000 represents the cost of the coal at the mines; the remainder is the expense attendant upon the transportation and storage of the fuel. In place of the coal bill comes the cost of the electric current. The present railway system would require annually 3,481,000,000 kilowatt hours. At the current rate of 0.833 cents, this represents an outlay of $29,000,000.

The present annual expenditures of $13,398,000 for miscellaneous items, includes the following: Coal for stations, etc., $1,850,000; water, gas, and electricity, $2,600,000; oil, cleaning waste, etc., $5,100,000. It is conservatively estimated that at least $4,750,000 can be saved on these items.

On minor accounts, machine cleaners, draft horses, losses by fires in forests from sparks, etc., a further economy of $1,750,000 should be attained.

NET ECONOMIES EFFECTED.

On balancing the foregoing savings and additional outlays incident to the change to electricity as a motive power on the Prussian system, it is found that the total annual economy in the charges for maintenance and exploitation to the be attained is $11,750,000. This would assure an interest of 5 per cent on the capital required to make the alterations as detailed, viz, $220,000,000 in round numbers. It is therefore clearly evident that the time has come when the change from steam to electricity as motive power on a large railway system in a fairly thickly populated European country can be attempted with the assurance that the resultant economies will reimburse the additional capital outlay. The average revenue of German railways is 5.07 per cent, according to comparative data collected in 1902. The revenue of the Prussian railway system, as shown by the data, was 5.04 per cent in 1904.

While the estimates thus summarized are based upon the assumption that the motive power on the entire system should be changed from steam to electricity, it is undoubtedly true that on certain portions the proposed alteration would be followed by conspicuous economies in current charges, while on other sections the reverse would be the case. On certain lines where the traffic is quite light at present it would be out of question to meet the additional interest charges involved by electrification.

It is therefore not at all improbable that any project for extensive electrification would involve at the outset alterations on such lines only as have now a fairly heavy traffic.

OTHER ADVANTAGES—GENERAL ADOPTION.

It must, however, be borne in mind that the estimates summarized are made on the additional assumption that the use of electricity as a motive power takes place under the same conditions as exist now for the exploitation by means of steam. While this assumption is inevitable in order to afford any sort of a working basis, it fails to bring into consideration several favorable features attendant upon the introduction of electric power.

The relatively small space occupied by an electric motor and the ability to control a number of motors from one point, allow of a freedom and mobility quite unknown in connection with the use of the steam locomotive. The latter is limited in one direction by grades, in another by the absence of a sufficient amount of profitable traffic for an entire train. In order to meet conditions of the latter nature, individual freight or passengers cars, equipped each with its own motor, are admirably adapted to solve the problem, as is frequently the case in suburban traffic.

The possibility of developing on existing tracks rates of speed far in excess of any rendered by the steam locomotive has already been conclusively shown by the remarkable experiments on the Zossen line. On mountain railways the use of electricity offers peculiar advantages on account of greater speed attainable on steep ascents, of the freedom from smoke in the many tunnels, and notably from the economic utilization of the water power present in mountain streams.

In view of the degree of confidence awakened by the various exhaustive studies of experts, such as the one summarized above, for the leading railway network in the Empire, there is a general opinion that in the early future electricity will displace steam, entirely or in great part, on all the leading German lines.

SOUTH MANCHURIA RAILWAY LOAN.

A LARGE SUM TO BE USED FOR VARIOUS EXTENSIONS AND WORKS.

Consul Roger S. Greene, of Dalny, reports the following details of the flotation of the South Manchuria Railway Company loan in London:

The loan is guaranteed by the Japanese Government, and is for £2,000,000 sterling (£1=$4.86), the issue price being £97½, and the interest 5 per cent. The net proceeds were £93 per bond of £100. The term of the loan is twenty-five years, and it is redeemable after ten years. I am informed that the underwriters were a syndicate including the Yokohama Specie Bank, the Hongkong and Shanghai Banking Corporation, and Parr's Bank, while the railway company was represented by the Nippon Kogyo Ginko, sometimes called in English "The Industrial Bank of Japan" and sometimes The Japan Credit Mobilier. The proceeds of this loan, with other unappropriated sums still at the company's disposal, will be used for the construction of the new Antung-Mukden Line, for the completion of the Dalny-Suchiatun double tracking, for the harbor works, electric railway, gas works, new shops, and other enterprises now under way or to be started in 1909, as well as for the loans to be made to the Chinese Government on account of the Heinmintun-Mukden and Kirin-Changchun railways.

Argentine Importation of Railway Material.

Consul-General Alban G. Snyder writes from Buenos Aires that there was a marked falling off in the Argentine importation of railway material during the first nine months of 1908 as compared to the same period of 1907. The number of locomotives dropped from 383 to 139, and cars from 4,047 to 1,695. The comparative imports of railroad materials by value for the two periods were:

	Nine months, 1908.	Nine months, 1907.
Locomotives	$2,317,738	$4,447,195
Steel ties	2,743,253	3,899,345
Steel rails	5,299,910	1,891,110
Cars	4,463,224	2,631,219

MOTORS AND VEHICLES.

FOREIGN TRADE.

UNITED KINGDOM.

NUMBER OF MOTOR VEHICLES IN VARIOUS PARTS OF THE COUNTRY.

From a table just published by the Royal Automobile Club Vice-Consul A. D. Piatt, of Dublin, finds that the total number of motor vehicles of all kinds registered in the United Kingdom of Great Britain and Ireland on September 30, 1908, was 154,391, the particulars being as follows:

Of the total number 71,381 were motor cars for private use; 12,104 were motor vehicles for trade purposes; 5,880 were motor cars and motor omnibuses used as public conveyances; and the remainder, 65,026 were motor cycles. The following table shows the distribution of these motor vehicles:

	England and Wales.	Scotland.	Ireland.	Total.
Private use	63,240	5,231	2,910	71,381
Trade purposes	11,172	810	122	12,104
Public vehicles	5,461	384	35	5,880
Motor cycles	57,472	4,482	3,072	65,026
Total	137,345	10,907	6,139	154,391

The use of motor vehicles has just more than doubled in the United Kingdom within the past three years, the growth in their use being almost uniform in the three countries. Ireland seems to lag behind a little, but this is accounted for by the fact that the returns for six of the Irish counties are for December 31, 1907, and also by the fact that a large number of the Irish cars are registered in England and Scotland.

AUTOMOBILE PRODUCTION.

BRITISH MANUFACTURERS ARE RAPIDLY FORGING TO THE FRONT.

According to Consul Frank W. Mahin, of Nottingham, it is claimed that British makers of automobiles have forged ahead so steadily the last year or two that French supremacy is now lost, and that France is not holding the position it formerly did in this trade. The consul continues:

Great Britain has been France's largest customer, but is now not only using an increasing quantity of its own product, but is also looking more than heretofore to Germany and Italy for its foreign supplies. Those countries are therefore, it is stated, adding to the loss of France's automobile prestige. The British maker now considers himself practically safe from serious foreign competition. British manufacturers, besides improving their product, are concentrating their energies and resources to increase efficiency and reduce expense. As an instance, the Humber Motor Car Company, whose original factory was at Nottingham, and who later established one at Coventry, has now closed the one here and is concentrating its entire business at Coventry, with enlarged capacity and yet with relatively less expense for production.

Americans are said to be looking toward England much more than formerly for improvements in their own output of automobiles. A contributor to a British trade journal writes as follows on this subject:

> I have recently met the heads of several large American firms, who are in England simply to see and ascertain what are the latest developments. Neither do they go back empty. The head of one large firm has, to my knowledge, taken up for the United States four patented improvements, in one instance paying the expenses of the inventor to visit his factory, in order that the invention may be properly tested. None of these patents have yet been seriously considered on this side, although, in the opinion of those competent to judge, they possess exceptional merit. The American makers are adopting European ideas to a very large extent, and are taking up whatever appears in the way of improvement. Further, the American Trade Association send over periodically a representative to collect data and particulars of British and foreign developments, a report being subsequently issued to all the members. Last year the same association expended no less than $12,000 in collecting and tabulating data in connection with matters in which manufacturers are mutually interested.

SPAIN.

AMERICAN AUTOMOBILES AND ACCESSORIES SUPERIOR TO EUROPEAN.

Consul-General Frank D. Hill, of Barcelona, in writing on the automobile trade in Spain, states that he is in receipt of a report made at his request by the agent of an American automobile manufacturer, in which the writer states:

An experience of several years duration as manager of an important garage in Mexico, during which time he had ample opportunity to study American cars, has convinced him of their superiority over European cars in general.

In the the first place the American car is carefully designed for travel over poor roads, many of those in Spain being in a deplorable condition. The American chassis is wonderfully strong, of great resistance, and high enough to permit passing over stones projecting 8 or 9 inches. As a rule European cars are built very low, the tendency being to increase the stability in this manner. The hang of the American car is superb, incomparably superior to that of the European, and in addition to numerous other advantages it possesses the most appreciable one of cheapness.

The cost of an American car is, in proportion, greatly inferior to that of any European make. For example, an average American car, 30/32 horsepower, equivalent to a French 16/20, with double phaeton tonneau, searchlight, lanterns, horn, cushions, hood, etc., well appointed in every respect, costs $2,800; while the French car 16/20 costs $3,184, leaving a difference of approximately $400 in favor of the American car. To this should be added the 20 per cent discount granted by American manufacturers, with the result that the net price of a completely equipped car is $2,240. Of course, freight charges and customs duties increase the prices shown, but these are practically the same for European as for American cars.

The American cars best adapted to conditions in Spain are first-class makes, ranging from 40 to 65 horsepower, and costing from $4,000 to $5,000; second class, small touring cars of 20 to 40 horsepower, ranging in price from $1,500 to $3,000; and runabouts for business men, doctors, brokers, agents, etc., at a cost of $850 to $1,000. These little cars present great advantages for Spain, being convenient, inexpensive, easy to run, and good hill climbers.

Excellent opportunities are offered to American makers of tires and accessories, owing to the good quality and cheapness of their products.

A set of American tires was tried in Barcelona and lasted exactly one year, in spite of continuous daily use on a car weighing 1,600 kilos (3,520 pounds). It is difficult to cite a similar example. Aside from their cheapness, accessories of American manufacture are to be recommended for their perfection and convenience, American makers progressing rapidly in this branch.

Drays and trucks for commercial use are almost unknown in Spain, and their introduction would undoubtedly be facilitated by familiarity with American systems, which are much cheaper than those imported from France or manufactured here.

Should American manufacturers care to exploit an excellent market, they ought to organize a permanent exposition in Barcelona. A stock of most improved models should be kept on hand, supplemented by tires and accessories of every description.

GERMANY.

MARINE MOTORS IN SAXONY, AND THEIR USE FOR THE FISHING FLEET.

Consul Thomas H. Norton, of Chemnitz, in reply to an inquiry, furnishes the following report on the outlook for marine motors in Germany:

Opportunities for the use of motor boats and water craft generally are extremely limited in Saxony, being confined almost exclusively to the 76 miles of the river Elbe, which flows across the Kingdom. Although this stretch is largely utilized for traffic, but few motor boats have been introduced. Less than half a dozen are owned by residents of the city of Dresden, and these are all of German build, having been constructed in the city by local smiths.

It is not improbable that a vigorous propaganda in the towns and villages located along the banks of the Elbe might lead to a more general use of the motor boat. Rowing, as a sport, is highly developed throughout the region. The German motor-boat trade is centered chiefly at Berlin and Hamburg.

A field in which marine engines could be employed most advantageously is offered by the present condition of the German fishing fleet. There has been a peculiarly conservative attitude toward the adoption of motor engines, and it is all the more remarkable as the neighboring Scandinavian countries were so prompt in equipping their fishing fleets with marine motors, as soon as suitable types for the rough usage of trawling and other fishing craft could be devised.

A few years ago the German ministry of the interior took up the matter, and at considerable expense demonstrated the advantages accruing from the substitution of motor engines for sails on fishing craft. The prevalent type of motor in the Danish fishing fleet was used in the experiments, which seemed to prove conclusively the economy in every direction resultant upon the change.

Despite the outcome of the timely and exhaustive investigations by government officials, there has been a marked apathy in regard to the adoption of the new system. The German fishing fleet now numbers 18,285 craft of all sizes. Less than 100 of these use motor engines as a means of propulsion, and in nearly all cases the motors are of foreign make.

PRIZES OFFERED TO AROUSE INTEREST IN THE INDUSTRY.

The indifference of German motor constructors to this important field is difficult to explain. It has, however, become so marked that a prominent fishing society [name on file in Bureau of Manufactures] has taken steps to awaken a more general interest in the matter. It has accordingly announced a series of prizes to be awarded to the best types of marine motors, of German construction, adapted to the needs of fishing craft. Prizes of $5,000 and $2,500 are offered for the larger designs, and of $2,500, $1,500, and $500 for smaller designs. The foregoing society is a powerful organization, over 20 years old, heavily subsidized by the Government, with an office at Berlin, and has done much to further the interests of German fishery on the ocean and along the coast.

Now that general attention has been directed to the desirability of installing modern motor equipment in Germany's large fishing fleet, it is possible that for a brief period the highly perfected American marine engines may find a good market, if effectively presented, before satisfactory domestic types will have been adopted and brought upon the market.

[List of German boat builders interested in marine engines is filed in the Bureau of Manufactures.]

MUNICH.

GOOD MARKET OPENING IN CAPITAL OF BAVARIA.

Consul-General Thomas Willing Peters, of Munich, makes the following brief response to an American inquiry as to the sales possibilities for motor cars in the Kingdom of Bavaria:

Much may be done in Munich, for the automobile is in great demand; but in order to introduce it properly manufacturers should have an American agent who understands German—not a German agent who understands English—and they should also establish at either Hamburg or Bremen, which are free ports, a supply station from which the various parts of the machines can be furnished to the purchasers of automobiles in case they are required. All communications with German firms should be made in the German language. [A list of Munich dealers in automobiles is filed with the Bureau of Manufactures.]

JAPAN.

NEW AUTOMOBILE TRANSPORTATION COMPANY IN TOKYO.

Vice-Consul-General E. G. Babbitt, of Yokohama, forwards the following information regarding the organization of an automobile transportation company in Japan:

There was recently organized in Tokyo a transportation company [name on file in the Bureau of Manufactures] for the purpose of transporting passengers and freight throughout that city. The capital of the company is 500,000 yens (yen=$0.498 gold), of which one-fourth has been paid in.

The intention was to start business with 20 motor cars, and a number of these have been ordered from France through a local business house. It is understood that a firm in Paris is supplying the cars, at an average cost of $3,000 gold. Five of these cars have recently arrived and undergone successful tests; 2 of them are for passengers, carrying six persons each, and the others light-delivery trucks of a loading capacity of 1½ tons.

Transportation of goods by automobile is a comparatively new undertaking for Tokyo. Several of these light delivery trucks and vans have been used in Tokyo by private companies, but the fact that no orders were repeated is evidence that they were not considered economical or capable of competing with the cheap cooly labor that so largely takes the place of horse or mechanical transportation in Japan.

American manufacturers should not become possessed with the idea that they can send catalogues over here and receive orders and remittances by return mail; the Japanese want to see what they are buying. It appears that the present undertaking is rather a venture on the part of the French manufacturers and the local agent; that the success of the new transportation company is problematical; and that the cost of the machines, with 50 per cent ad valorem duty, with cost of operating and repairs. may take more than the profits of a business which is not assured them.

AUSTRALIA.

NUMBER AND VALUE OF MOTOR VEHICLES IMPORTED.

Consul-General John P. Bray, of Sydney, transmits the following detailed information relative to the importation of motor vehicles into Australia:

According to a customs return recently issued, 3,559 motor vehicles were imported into Australia from 1901 to 1907. Of this total 1,175 went to New South Wales, 1,436 to Victoria, 132 to Queensland, 496 to South Australia, 224 to Western Australia, and 96 to Tasmania. The total import value of these vehicles was $3,392,125, and the duty paid on them amounted to $701,105.

Of the total number of automobiles imported during the years stated, no less than 398 were imported from the United States. In the year 1903 the United States sent to Australia 71 automobiles, valued at $35,262; in 1904, 161, valued at $75,586; in 1905, 122, valued at $63,799; and in 1906, 44, valued at $37,841. The figures for 1907 are not yet complete, nor is it possible to get the figures for the first three quarters of 1908.

Motor cycles imported during the nine months ended September 30, 1908, were valued at $59,361, the duty being $16,881. Bodies for automobiles, motor trucks, and wagons, valued at $135,011, were imported during the same period, the duty amounting to $45,954. There were further imported during the nine months under review chassis for automobiles, motor trucks, and wagons of a total value of $933,394, and the duty upon these amounted to $22,439.

TURKEY.

PROMISING MARKET FOR MARINE ENGINES.

Vice-Consul-General Oscar S. Heizer, of Constantinople, in response to a letter of inquiry, writes as follows regarding the motor trade in Turkey:

Constantinople is an ideal place for the employment of motor boats, and doubtless in time many will be used here. They are now being introduced and seem to meet with favor. It is probable, however, that the great distance from the United States will preclude the importation of the boats from that country, but very good boats are built by local builders, and motor engines might be ordered from the United States to be installed in the locally constructed boats.

[Names of parties interested in this line of business are filed in the Bureau of Manufactures.]

CANADA.

GOOD FIELD FOR AMERICAN MOTOR CARS.

Consul-General David F. Wilber, of Halifax, in reply to an inquiry relative to the market for automobiles in Nova Scotia, sends the following supplementary information to his previous reports:

There is a good field for the extension of this branch of American export trade, especially in certain parts of the Province, while in others there will be no demand for motor cars owing to the fact that their running is restricted to certain days in the week.

There seems to be about the same amount of money in circulation in Nova Scotia as in the New England States. The people are more conservative here than they are in most sections of the United States, but it is only a question of time and the proper introduction of the line when there will be as many motor cars used here as among the same population in the United States.

While in some cases it is well to open up sales through correspondence, this market will yield better if a representative from the factory or head office is on the ground to start the trade, after which the representative can make connections with some reliable person or firm to go ahead and push the sale. This will give the agent an idea that he is expected to get out and push the goods instead of waiting for customers to come to him, as is the case generally when an agent is appointed by mail. From the representative from the head office he will learn the machine he is to handle and the nature of the concern with which he is to do business.

Manufacturers of automobiles in the United States have to compete with manufacturers of the same line in Canada, which means that the duty on machines coming into this country has to be met. That this can be done is proved by the fact that almost two-thirds of the machines now in use in the province are of American manufacture.

[List of automobile dealers in Halifax is filed in the Bureau of Manufactures.]

AGRICULTURE.

FOREIGN CROP REPORTS

CANADA.

RAPIDLY INCREASING FARM PRODUCTIONS AND WEALTH.

Consul-General John Edward Jones, of Winnipeg, submits a report upon the crops of Manitoba for the calendar year 1908:

That agriculture in Manitoba is fast improving is marked by the general progress of the country, and year by year statistics denote a large increase in the output of the soil. The December bulletin of the Manitoba agricultural department, just issued, is an indisputable proof of that progress, the figures showing the great strides which the prairie Province has made in this direction during the past twelve months.

Not only does an increased acreage and an increased yield indicate improvements, but in all branches of farming there is decided advancement, and this report shows there is a favorable tendency for mixed farming. This season the sample of the grain is above that of former years, a marked indication that farmers are resorting to more thorough and improved methods of cultivation.

Dairying, because of high prices and favorable conditions, shows excellent results, with improvement and increase in all phases. A large increase is noted in all lines of poultry, this being formerly a neglected industry. The increase in cultivated grasses evinces a tendency toward rotation of crops that is so necessary on farms which are yearly growing older in cultivation. Fall plowing, too, shows an increase, which speaks well for next season's output.

An extra effort was put forth last year to destroy the noxious weeds that have been looming up as an increasing menace to the farmers of Manitoba. It would appear that the efforts of the government in making the law in this direction very stringent have had the desired effect of awakening the country to the danger of carelessness and negligence in the matter of weed eradication and proper cultivation of the soil.

The total grain crop of the Province is 113,058,188 bushels, as compared with 99,010,285 bushels last season. The current wheat crop is 49,252,539 bushels, an average yield per acre of 17.28 bushels; oats 44,686,043 bushels, an average of 36.8; barley 18,135,757, an average of 27.54; flax 502,206; rye 334,609; and peas 147,033 bushels. The number of thrashing outfits in operation was 2,287. The percentage of wheat marketed December 1, 1908, was 69, or 33,984,252 bushels.

The 29,963 acres of potatoes yielded 5,148,696 bushels, and 13,592 acres in other root crops, 3,419,670 bushels. This brings the total area under all crops up to 4,987,498 acres.

In cultivated grasses the total yield for the Province was as follows: Brome, 57,729 tons; rye, 44,946 tons; and timothy, 91,089 tons, all from a total acreage of 125,332.

In 1907 the estimated amount expended in farm buildings was $1,735,825, while the expenditures in 1908 advanced to $2,054,490. The poultry disposed of by farmers for the year numbered 74,387 turkeys, 41,491 geese, and 471,759 chickens.

The total area prepared for the crops of 1909 is 2,273,802 acres. The total area prepared for the crops of 1908 was 1,843,016 acres.

ECUADOR.

TIME OF GATHERING AND EXTENT OF LEADING CROPS.

In regard to the time of the year in which the cocoa and other crops of Ecuador are harvested and moved, Consul-General Herman R. Dietrich writes from Guayaquil:

Cocoa, which is the principal product of Ecuador, is harvested or gathered during the months of February, March, April, and May. A small amount of cocoa is gathered and brought to market during every month of the year, but it is safe to say that at least three-fourths of this crop is gathered during the months mentioned, and by the end of June or July has already been placed on the market. During the year 1907, 43,348,369 pounds of cocoa were exported from Ecuador, of which 7,653,756 pounds were sent to the United States.

The rice crop is principally harvested during the month of May, and is generally placed on the market during the months of June and July. The estimated annual production is 40,000,000 pounds, which is not quite sufficient to supply the home demand. A small quantity is imported every year from various countries.

The growing of sugar cane is of considerable importance in this country. The cane is cut and taken to the plantation mill during the months of July, August, September, October, and November. Some plantations work up to the middle of December to finish gathering the crop. Approximately, the various plantations in Ecuador produce 160,000 bags (of 100 pounds) of sugar annually, which is about equal to the home consumption, although a small amount of sugar is imported and exported every year.

The crop of coffee raised in this country is almost completely gathered during the months of August and September, and as soon as possible is placed upon the market. No statistics are to be had showing the annual production, but it is estimated to be about 7,000,000 pounds. During the year 1907, 2,515,368 pounds of coffee were exported from Ecuador, of which only 72,989 pounds were sent to the United States.

Vegetable ivory nuts, of which Ecuador exports a considerable amount, ripen in August and are principally gathered during the months of September, October, and November, although a small portion is gathered at all times during the year. The bulk of this crop is moved and placed on the market here during the wet season for the reason that it is necessary to bring the nuts in canoes down the rivers and small streams. The annual production is about 48,000,000 pounds, all of which is exported. During the year 1907, 9,353,824 pounds of ivory nuts were shipped from Ecuador to the United States.

Rubber is gathered and brought to market during all the months of the year. The amount of rubber exported from Ecuador in 1907 was 1,031,510 pounds, of which 816,684 pounds were sent to the United States.

GERMANY.

AVERAGE CROP CONDITIONS IN RHINE DISTRICTS.

Vice-Consul William J. Reuters sends from Aix-la-Chapelle the following crop report for that German province, and four adjoining districts, as given in a local journal on November 27:

	Aix-la-Chapelle.	Coblenz.	Dusseldorf.	Cologne.	Treves.
Winter wheat	3.1	3.7	3.0	3.5	3.5
Winter spelts	3.0	3.7			3.8
Winter rye	2.9	3.5	2.7	3.4	3.3

No. 1, means very good; No. 2, good; No. 3, average; No. 4, poor; No. 5, very poor.

RUSSIA.

WINTER CONDITION OF GRAIN THROUGHOUT THE COUNTRY.

From a digest of private and semiofficial information collected by Consul John Grout, of Odessa, relative to the crops of winter grain, both rye and wheat, in European Russia at the setting in of the winter, 1908–9, he presents the following under date of December 29:

It would appear that the work of preparing the ground for the winter seed had to be performed under conditions which were not altogether favorable excepting in the central portions of Russia, where rain and dry weather alternated and the conditions were about normal. In the northern parts the month of August was first wet and then dry and cold, and in the southern parts too dry. Some time later the rains fell off in the north and, at the same time, began in the south, which promoted the growth of the seed in the north and sowing in the south. If this condition of affairs had continued the results would have been most favorable, but soon the temperature over the whole of Russia fell off to an alarming extent and stopped all growth. Then followed a period of warmer weather during which the plants benefited. The cold, however, returned with renewed vigor until the ground was quite prematurely and firmly frozen.

Happily, the frost all over Russia was attended by an ample snowfall. The snow effectually protected all of the crops, which had sufficiently developed to be in a condition to pass with safety over the winter, which condition, however, had not been fully attained by some of the crops in the north and in the southeast. The plants here were in many instances too young and too tender, and unusually favorable circumstances are now required to carry them through the usual rigors of a Russian winter. So far, the snow cover which, excepting in the extreme south and southeast, extends all over Russia, is doing this effectually. Old and experienced farmers, however, express their fears that this winter, which set in too soon, may have a spell of mild weather (a "hole," as they term it) in its middle, and if this proves true, then the returning frosts will be sure to detrimentally affect the exposed hibernating crops. The whole condition of the winter crops may be summed up in the following way: Favorable over about two-thirds of the whole area and seriously doubtful over the remainder.

UNITED KINGDOM.

CURTAILED CROPS FOR PAST YEAR—DEMAND FOR SMALL FARMS.

Consul Joseph G. Stephens, writing from Plymouth, says that owing largely to disastrous weather conditions British agriculture in 1908 showed poor results, but that the prospects for 1909 are the most favorable for many years. He reviews last year's yields as follows:

The acreage totals for the principal crops in Great Britain and Ireland were as follows: Wheat, 1,663,395, or 193 less than in 1907; barley, 1,821,832, or 60,693 less; oats, 4,169,401, or 28,887 less; potatoes, 1,149,335, or 9,147 more; turnips, 1,829,851, or 8,409 less; mangols, 499,850, or 17,303 less; and hay, from clover and grass together, 9,484,992, or 16,704 more.

There were increases of horses and cattle in Ireland and decreases in Great Britain, while sheep have increased in both divisions and pigs have become more numerous in Great Britain, but fewer in Ireland. The totals are 2,150,081 horses, 11,696,963 cattle, 31,169,353 sheep, and 4,041,245 pigs, showing a total decrease of 2,332 horses and an increase of 108,433 cattle, 1,237,289 sheep, and 107,202 pigs. In two years the substantial addition of 2,034,162 has been made in the stock of sheep.

The preliminary produce statistics gave the estimated yield of crops per acre for Great Britain as follows: Wheat, 32.29 bushels, as compared with 33.96 in 1907 and 31.70 as the ten years' average; barley, 32.81 bushels, against 35.26 and 33.38; oats, 39.8 bushels, against 43.04 and 39.75; beans, 30.16 bushels, against 34.5 and 30.06; pease, 28.21 bushels, against 29.44 and 27.29; hay from clover and mixed seeds, 31.42 hundredweight, against 32.97 and 29.95; hay from permanent grass, 25.11 hundredweight, against 27.23 and 24.21. All these crops, it will be seen, come out lower than those of 1907.

PRICES AND CONDITION OF LIVE STOCK.

There was no improvement in the low prices of 1907 for fat cattle, while fat sheep and pigs of all classes were cheaper. Ordinary sheep fall seriously in price. The demand for well-bred horses of the heavy class was good, but ordinary horses brought small prices and were in little demand. Ponies can not be sold, except at profitless prices. Milk, cream, butter, and cheese sold well throughout the year.

The year was a healthy one on the whole for live stock. At the beginning of the year an outbreak of foot-and-mouth disease among cattle occurred in Scotland, spreading to two other herds, but it was speedily stamped out by the prompt action of the board of agriculture. Evidence showed that the infection had been brought into the country in hay from the Continent. The outbreaks of other contagious and infectious diseases, except those of sheep scab, in the first three quarters of the year were fewer than those of the corresponding period of 1907.

The number of applications for small holdings in most counties has been very large, and prompt efforts have been made to meet them, but the majority of applicants can not be established in their small farms before well on in 1909. The proportion of farm laborers among these men is small in most counties, and to those familiar with all phases of this question there is considerable anxiety as to the prospects of the majority of these new ventures. It is an experiment the development of which will be watched with the keenest interest.

CHINA.

SHIPMENTS INAUGURATED FROM DALNY TO SHANGHAI.

Consul Roger S. Greene, of Dalny, reports that 56 tons of wheat from the vicinity of Changchun were shipped to Shanghai on December 14, on which he comments:

While this is not a large amount, it is, so far as I can learn, the first actual shipment of wheat from Dalny of any commercial significance, and it is believed that it will be followed shortly by large quantities. The South Manchuria Railway is trying to give every facility to the shippers, by issuing through bills of lading from Changchun to Shanghai, and undertaking to arrange for the transshipment of the grain from cars to steamers here, as well as by giving as prompt dispatch as possible at this busy season. The through rate on grain quoted by the company is 11.7 yen ($5.83 United States currency) per ton of 2,000 pounds, but it has been reported in one of the local newspapers that a special rate of 9 yen ($4.48) has been allowed.

If the difficulties that have hitherto been experienced by outsiders in buying for export sufficient quantities of wheat in North Manchuria to keep a modern mill in operation can be surmounted, a profitable business should result. It is not yet clear whether the volume of wheat exports will be sufficient in the near future to injure the American wheat trade with the East to an appreciable extent, but it is evident that, with the present low price of silver, grain that is paid for in silver must, other things being equal, enjoy a great advantage in the Chinese market.

AGRICULTURAL CONDITIONS.

CHINA.

DIVERSIFIED CROPS THE PRESSING NEED OF THE LARGE EMPIRE.

The following report, covering the population of China, its agricultural conditions, and the need of modern methods in the cultivation of the soil and harvesting the crops, is furnished by Consul J. C. McNally, of Nanking:

The official census of 1902 gives the population of the Chinese Empire as 430,000,000, covering an area of 4,278,352 square miles, and while the vast area is sufficiently great to comfortably accommodate the population, if properly distributed, many are driven, on account of climatic conditions and agricultural advantages, to certain sections, while the localities lacking in natural conditions that would insure an existence are practically deserted.

China proper has a population of about 410,000,000, covering an area of 1,532,800 square miles, the balance of the population and area being as follows:

Divisions.	Population.	Square miles.
Manchuria	8,500,000	363,700
Mongolia	2,580,000	1,367,953
Chinese Turkestan	1,200,000	550,579
Tibet	6,430,000	463,320

The above plainly indicates an unequal distribution of the population, due to the necessity of locating in sections where nature provides food. Manchuria is an uneven country, and having extreme seasons, does not appeal to the Chinese, many of whose houses are of the flimsiest sort. Mongolia and Turkestan have similar seasons, with frequent sand storms, and the fertility of the countries are not such as to invite the people within their environments. The eighteen provinces of China proper are practically level, have a suitable climate, and are altogether suitable to the tastes of the vast numbers located in them.

While to the casual observer the teeming population of China indicates an abnormal density of population, yet it is a matter of great surprise to persons traversing the Yangtse River and other parts of China to have an unobstructed view for miles on either side of vacant land, which, though rich and capable of producing, is given over to a listless cultivation of some inferior vegetable or reeds, which latter is used for fuel.

THE NARROW ROUND OF CHINESE AGRICULTURE.

China is an agricultural country, and more than two-thirds of its vast population are engaged in agricultural pursuits, but following a system that was in vogue centuries ago. Increased crops are not the result of advanced cultivation or the application of modern devices to enrich the soil, favorable climatic conditions alone stimulating the yield. The implements of centuries ago are being constantly duplicated, and while in some instances a modern farm implement is brought into service, its reception is not cordially welcomed.

While China's population is entirely dependent upon the earth's natural food productions for their existence, their knowledge of agriculture seems to be limited to raising only a few things. This may be due to the lack of fertilizing facilities, this branch of the farmer's work being such as to make it practically impossible for foreigners to use their products fertilized under the prevailing system. It would seem as though the introduction of some cheap fertilizer would prove a boon alike to the Chinese, the foreigners living in the Empire, and the exporter. Neither do they protect their crops from extraneous influences, and the variable weather and the depredations of insects make the harvest an uncertain element. Droughts or excessive rains oftentimes destroy what would otherwise be a rich production. Rice of the interior, which is the national cereal, could be made to yield more with the application of modern methods of cultivation. The ancient system with regard thereto, whether as to the variety raised under water or that raised on the highlands, is still in vogue, similar in every way to that of centuries past.

No greater practical gift could be offered the Chinese than the establishment of agricultural and horticultural institutions for the dissemination of practical ideas to guide the thousands engaged in farming. This would obviate the periodical sending of thousands of dollars and shiploads of flour to relieve the starving. Famines in China are attributable to the failure of the rice crop, which is either due to excessive rains and high water or some unforseen circumstance that might be avoided if the grower were acquainted with the proper methods. Practical knowledge would at once relieve the anxiety of famine and prove infinitely more far-reaching and effective to the corporeal wants of the people than anything else. Besides, it would save hundreds of lives by teaching the methods of growing substitutes for rice, to which the people could have recourse in time of rice famine.

Truck gardening, rice growing, and the cultivation of the silk worm is the practical work of the interior, but the land contiguous to the lakes and rivers is almost all unoccupied and uncultivated. The rice of the interior is the universal food, and varies in quality and production in accordance with the climatic conditions of the season. The total dependence of the people upon the yearly rice yield, the failure of which brings misery and death to thousands, should encourage the people in the development of some substitute to protect against the ever present spectre of famine that threatens devastation year after year.

WHEAT AND FLOUR PRODUCTION.

There is no doubt that proper care given to wheat growing in China, as well as to other grains, would greatly enhance the product. The vacant lands drained by the great lakes and rivers could, with proper cultivation, be converted into wheat-growing farms. The same could be done with the more elevated lands of the interior. Wheat growing has had indifferent results due to the lack of knowledge, first in locating the proper ground, and secondly on account of the ignorance of the grower as to the proper methods to use in its cultivation. Land entirely suitable for the raising of wheat exists in China, which could be selected by our western farmer, but, being a comparatively new departure in Chinese farming, such knowledge does not exist here. The introduction of the modern farming implements as used in agricultural pursuits in the United States are decidedly wanting in China. Those used in centuries past have been duplicated and are still in use, and although of the most primitive character they are used to advantage, all things considered.

It is said that there are about 35 flour mills in the Empire, producing 1,500,000 barrels of flour, which, of course, comes into direct competition with the foreign-made article, and which, as time goes on, will some day develop to satisfactory proportions. The foreign article is bound to feel the competition of the local product; for in the near future more flour mills will be erected, there will be more lands under cultivation, and the wheat raising of the Empire will present itself as a factor of importance in the supply of its own breadstuffs. As China is to-day entirely dependent upon her home agricultural products, it would be but an increased development of her natural resources if she would enter upon the raising of wheat and the exportation of flour to the markets now being monopolized by the surplus production of India. In the northwest of Kansu, which province is considered among the most fertile in China, wheat of fine quality is harvested. In lower Yunnan, the product is large and satisfactory. In the provinces of Kweichow, Quangtung, Fokien, Chekiang, and others, wheat of a fair quality is raised, all, however, capable of being made richer by the application of the methods of modern farming.

PLANTS USED FOR INDUSTRIAL PURPOSES.

While in certain parts of China grapes are grown and a sort of wine made from the juice, it is not of such a quantity or quality as to invite attention. The native spirit, which is highly intoxicating, is made of the juice of rice and millet, with an addition of some native ingredient. The textile plants are numerous in China, embracing hemp, China grass or ramie fiber, and cotton. Silk is the product of the worm fed on the mulberry tree; paper is made from the pulp of the bamboo, the fibers of which are used for cord or string. Oil is abstracted from a native tree and is called wood oil. Oil is also made from cotton and rape seed, groundnuts, etc. The opium poppy, while decreasing under the influence of Imperial decrees limiting its culture, is yet a highly important element of soil production, and ranks in this regard with cotton, tea, sugar cane, and bamboo.

The Chinese national beverage, tea, is of various qualities, the better and most delicate being the first crop, or the sprout. It is harvested three times a year, and the leaves are prepared as black, green, brick, and dust tea.. The brick is almost all exported to Russia, Siberia, and Mongolia; the other kinds are sent to the United States and Great Britain chiefly. It is said, however, that much of the crop is consumed at home.

The Chinese serve their tea in covered cups, the cover being of a saucer-shaped arrangement which can be sufficiently tilted to admit of sipping, after which the cover is replaced. The tea is prepared by placing a few leaves in the cup and adding some boiling water. It is then covered and allowed to brew. The Chinese drink their tea much weaker than it is used in the United States. It is always served very hot, the Chinese being opposed to cold drinks. If one asks for a glass of water it is always handed out hot.

TREES OF ALL SORTS.

While the apparent blight of China is the absence of forests, unless it be in wild remote parts, some marketable product is produced. Nothing is spared that will in any way serve as fuel, and the hillsides and slopes of mountains, the last to withstand the onslaught of the woodman's ax, are at last yielding to the demand for kindling wood, and even that can not half supply the market. In consequence, heavy timber must be imported from abroad, not only to use as building material, but to also supply firewood or kindling.

Among the trees that produce a marketable substance can be mentioned the wood-oil tree (t'ungtz-shu), the gum-lac tree (ts'ihtz-shu), the tallow tree (kuentze-shu), the wax tree (pehlah-shu) the camphor tree (tsao-kioh-chu), the soap tree, etc.

The mulberry tree, which contributes so much to the leading industry of China, is cultivated for its leaves, on which the silkworm is nourished. This latter industry is of great importance, and the manner of breeding and rearing the silkworm is one of the most interesting studies in China. These trees are plentiful in the provinces of Kiangsu, Chekiang, and Szechw'an. In other provinces another variety of the silkworm thrives on the wild-oak leaves, but the better quality subsist on the mulberry leaves.

The greatest blessing in the matter of natural productions that exists in China is the bamboo. To recite the different uses to which it is put would cover reams of paper. It is thought that over sixty varieties of bamboo exist, and it can be properly termed the national plant. It is applied to domestic, commercial, and industrial uses. Its shoots are a great delicacy and are among the dainty and expensive dishes that usually grace the tables of the Chinese mandarins. Its roots are turned into canes, while the tapering spire is used in making masts, poles, tables, stools, chairs, chopsticks, pipes, umbrellas, fans, musical instruments, buildings, etc.

The fruit trees of China are the peach, apricot, plum, apple, arbutus, orange, banana, jujube, pineapple, mango, chestnut, walnut, persimmon.

Some of the better class of Chinese, aided by the advice of foreigners in whom they have confidence, are about to enter upon a crusade against the further destruction of the meager forests that now exist, as well as for the cultivation of new ones. The demands of railways for sleepers and construction materials must be met by importations from Russia and parts north of China.

The beauty of the landscape is greatly marred by the absence of forests or clusters of trees, which, apart from the actual value to be derived from them in divers manners, is a condition that is to be otherwise deplored.

EGYPT.

FUTURE IRRIGATION EXTENSIONS ARE QUITE LIMITED.

A report from Consul-General Lewis Morris Iddings, of Cairo, says that incorrect statements have recently appeared in leading commercial newspapers in the United States to the effect that reclamations of land are now in progress in Egypt which will lead to an increase of 1,700,000 acres in the cotton-growing area of the country. Mr. Iddings describes the real situation thus:

When the addition to the Assuan dam is finished in 1912 over twice as much Nile water will be held up as at present, and it is expected that 900,000 acres of land in the very north of the delta, over 700 miles distant from the dam, will then be reclaimed, since there will then be summer water enough to irrigate this great tract. But until the dam is finished, no steps will be taken to reclaim or drain these 900,000 acres which lie in the low region of the lakes. When the work of reclamation is begun, the only machinery to be employed will be dredges in the canals; the rest of the labor will be manual, which is very cheap in Egypt. No other reclamations of Egyptian lands are now contemplated.

The above information was obtained from the English adviser in the department of public works. Projects for the reclamation of land by artesian wells in a chain of oases in the Lybian Desert, to one of which oases there is now a railroad, are too vague, in the adviser's opinion, to be yet considered. The barrage at Esna, not far from Assiut, which will be ready for use in February next, will not increase the arable area of Egypt. Its purpose is to assist the distribution of water, especially in seasons when the Nile is low and when without it water could not be served to certain relatively high lands.

BRAZIL.

BELGIAN EXPERT ENGAGED TO ESTABLISH NEW INSTITUTE.

Consul H. Abert Johnson, of Liege, advises that at the request of the Brazilian Government the Belgian Government has recently authorized Prof. H. Raquet, of the Agricultural Institution of Gembloux, to accept a commission which has been tendered him to organize at Rio de Janeiro a governmental zootechnical and agronomical institute, dedicated to the study of stock raising and agricultural experiments. The consul continues:

This is the second time that Mr. Raquet has visited Brazil in the capacity of an agricultural expert. Two years ago he was called there for the purpose of organizing a zootechnical establishment in the State of Sao Paulo, which now counts among its management several engineers from the institute of Gembloux.

Belgium has long enjoyed a certain preeminence in matters of industry and commerce, and her mechanical and mining engineers have been called by various governments to inaugurate important mining and industrial enterprises, while in agricultural science this country is also apparently coming very much to the front.

GERMAN VITICULTURAL LEGISLATION.

EXISTING AND PROSPECTIVE LAWS FOR PROTECTION IN WINE TRADE.

Consul Thomas H. Norton, of Chemnitz, advises that the protection accorded by existing German laws to grape-growing interests is confined chiefly to statutes designed to safeguard the purity of wine. Mr. Norton discusses their provisions and contemplated changes as follows:

The present law came into force on May 24, 1901. Its chief provisions are as follows:

In the law of 1879 regarding foodstuffs, etc., certain forms of adulterated or imitation wines are forbidden. Exception is made in the following cases, where the products of the operation are not to be considered as falsified wines:

(1) The recognized cellar treatment of wine, including preservative methods, even when alcohol or small quantities of albumen, gelatin, isinglass, etc., tannin, carbonic acid, sulphurous acid, or sulphuric acid formed therefrom, are added for the purpose; however, the amount of alcohol added, in as far as foreign southern or sweet wines are not concerned, should not amount to more than 1 per cent of the volume.

(2) Mixing of wine with wine.

(3) The lessening of acidity by means of pure precipitated calcium carbonate.

(4) Addition of technically pure cane, beet, or invert sugar, technically pure starch sugar, likewise in aqueous solution, in as far as such additions are made merely for the purpose of improving the wine without materially increasing its amount; further, in character and composition, and especially in

the percentage of extractive substances and mineral matter, such sugared wine shall not be inferior to the average grade of the unsugared wine of the vineyard territory to which the wine, according to the designation given it, should correspond.

CERTAIN PROCESSES FORBIDDEN.

The industrial production of so-called wines by the following processes is totally forbidden:

(1) An addition of sugar solution or ordinary water to grapes, grape mash, grapes wholly or partly expressed, mixed with yeast (producing grape wine and yeast wine).

(2) The use of dried fruits (also their extracts by solvents or by boiling) or concentrated fruit sirups, even though their use is permitted in making beverages which occur in trade as foreign dessert wines.

(3) Artificial sweetening matters.

(4) Tartar, tartaric acid, etc., aromatic matters.

(5) Artificial fruit sirups or essences, even though the use of aromatic and medicinal substances is permitted in making wines which appear on the market in the form of the ordinary root beverages or medicines.

(6) Cider and fruit wine.

(7) Gums or other substances by means of which the extractive substance would be increased.

Further it is forbidden to have for sale or to sell wine, to which sugar has been added, so labeled as to give the impression that such addition had not been made. The designations prescribed by the imperial federal council must be given on price lists, wine lists, and other forms of advertisement.

ADULTERANTS NOT ALLOWED—RESULTS OF INSPECTION.

The addition of the following to wines, and to beverages resembling wine, is forbidden:

Soluble aluminum salts (alum and the like), barium salts, boric acid, glycerin, foxglove, magnesium compounds, salicylic acid, oxalic acid, alcohol containing free amylalcohol, strontium compounds, and coal-tar dyes. The sale is forbidden of red wine containing more sulphuric acid in one liter than would be present in two grams of neutral potassium sulphate. These rules are not applicable to foreign, southern, and sweet wines.

Officials and experts designated by the several German States have permission to enter all places (during the night if considered necessary) in which wines and beverages containing or resembling wine are manufactured, kept, offered for sale, or packed and examine the trade labeling, freight bills and books; also to take samples for examination on giving receipts therefor.

The proprietors, directors, or inspectors of these rooms are obliged, on being asked, to give the government officials and experts information as to the procedure in manufacturing the products, the extent of the manufacture, and the materials used in manufacturing; especially the proportions in which the different materials are used and whence they are obtained; also to submit labels, freight bills, and books.

The imperial federal council published regulations governing the inspection of wine on June 29, 1901. During the past seven years 680 decisions have been rendered by the courts under the above law. Of these 570 involved punishment by fine, etc., while in 110 cases the charges could not be sustained. All told, 749 persons have been sentenced to a total of three hundred months imprisonment and fines amounting to $51,000. Of those sentenced 337 were wine growers, the remainder wine merchants. The chief cases of contravention of the law were as follows:

	Cases.		Cases.
Dilution with water	330	Addition of—Continued.	
Addition of—		Alcohol	19
Dessert wines or concentrated fruit sirups	10	Mineral salts	76
Cider	57	Aromatic substances and essential oils	35
Glycerin	109	Vegetable coloring matters	19
Impure starch sugar	7	Coal-tar dyes	33
Acids	122	Preservatives	15

PURE-FOOD FEATURE EXTENSION.

The German Parliament has now under consideration a new law modifying the foregoing statute in certain features, and designed to protect still more effectively the producers of pure wines. It will probably be adopted during the winter. The chief provisions are as follows:

The mixing of wines of different vintages and different years of the same vintage is allowed. It is forbidden, however, to mix so-called dessert wines (sweet wines, southern wines) with white wines of an entirely different character.

In the case of red wines, when the grapes have not been sufficiently matured, enough sugar or sugar solution may be added to the expressed juice or to the wine so as to yield a wine containing the normal amount of alcohol and free acid, present in seasons when grapes are fully matured. The amount of sugar solution added must never exceed one-fifth of the volume of the grape juice or wine thus treated. The addition of sugar can take place only during the period beginning with the opening of the vintage and ending on January 31 of the following year. During this period wines of earlier vintages may also be treated. The addition of sugar can take place only in the region where the wine is produced. The intention to make use of this permission must be announced to the proper authorities. The addition of sugar to a deteriorated wine to produce a new fermentation requires a special permission of the authorities. Wine growers and wine merchants are required to inform purchasers, if the demand is made, whether the wines in question have received an addition of sugar, and to be thoroughly familiar with the facts in the case. In the labeling of "sugared" wine the character of the grapes used and the year of vintage may be indicated, but it is forbidden to add the name of the wine grower or the region of production.

Geographical designations in the commerce with wines are limited to indicating their origin. The present practice, however, of using such designations for the purpose of distinguishing between similar products of the same region is allowed.

DISTINCTIONS MADE—PROPER LABELING.

It is totally forbidden to make imitation wines for other than household use, or to import the same. The distinction is drawn between beverages which may replace wine, such as fruit or vegetable juices, malt extracts, etc. (which are permissible), and liquids intended to so closely resemble wine that they may deceptively be sold as such. The imperial council possesses the right to limit the choice of materials from which such beverages may be prepared.

Champagne must be labeled with the name of the land in which the bottles were filled. If the fermentation did not take place in bottles the fact must be indicated on the label. The term "cognac" can be applied only to brandies the alcohol of which is obtained from grape juice. The land of origin must be placed upon the label.

Each wine grower is required to keep a very complete set of books, showing how much grape juice and how much wine he has produced directly, how much has been purchased from others; the quantity of sugar used and how employed; what liquids similar to wine he has produced or purchased. Dates and names are to accompany all transactions of sale or purchase. Such books must be retained for five years after the last date of entry.

Official experts are to be appointed in each wine district with full powers for inspecting cellars, books, etc. Absolute silence is required in regard to all trade secrets learned during inspection. The execution of the law is intrusted to the various Federal States and their officials. The maximum punishment prescribed is two years' imprisonment and a fine of $4,000.

The whole tenor of the proposed law is in harmony with the dominating principle of the American pure-food law, i. e., the preventing of the sale of wares without full knowledge on the part of the purchaser of just how the food or beverage has been manufactured, and what are its constituents.

LIVE STOCK AND PRODUCTS.

BRAZIL.

EFFORTS FOR IMPROVEMENT—AMERICAN OPPORTUNITIES.

Consul-General George E. Anderson reports from Rio de Janeiro that the importation of improved live stock into Brazil for breeding purposes is continuing to increase, at least proportionately with increased modern agricultural machinery and materials generally, and in some portions of the country in much larger proportion. Mr. Anderson continues:

At present the United States has not the part in this trade it should have, though there are indications that such share will shortly increase. During the last half of 1908 several important shipments of stock came from the United States, and several of the agricultural school managers and state experiment stations prefer American stock in some lines. In 1906 the United States sent to Brazil about a fourth of its imports of cattle, which amounted to about $400,000, while in 1907 it sent only about one-ninth of the imports, which amounted to about $490,000. The past year will probably show a much better record, but the proportion of American stock is still small. In cattle, Argentina in 1907 sent to Brazil about $162,000, as compared with about $93,000 the year before, while India in 1907 sent about $105,000 worth as compared with $21,000 the year before. Uruguay continued to send about one-fourth of the whole imports. In goats and sheep, Argentina and Uruguay practically doubled their exports to Brazil. In imports of horses, mules, and asses, Argentina and France showed increases, while other countries in general showed notable decreases.

ADAPTATION TO NEW CLIMATES.

The explanation of this course of trade is easily had in most instances. It has been found by Brazilian importers that animals bred and fed in the United States and England and other northern countries are apt to start badly upon being transferred to Brazil. The grazing in Brazil is different, the grass shorter and coarser, hay and grain are less used, and other forms of feed are different, including notable changes in the nature of the water supply for stock. On the other hand, the change from the United States and northern Europe to Argentina is less radical and the animals become acclimated more readily, and when once acclimated in Argentina and Uruguay their respective races are more readily acclimated in Brazil from the countries bordering upon it. The imports from India consist almost altogether of the yak breeds of native Indian cattle, which have been found to adapt themselves readily to Brazilian climate and conditions, which are similar to those of their native land. The advantage in introducing improved stock in Brazil, therefore, does not lie with the United States even to the extent that its live stock is superior to that of other countries with which it comes in competition.

GOVERNMENT ENCOURAGEMENT.

Both the Federal Government of Brazil and the governments of the several live-stock States are giving every possible attention to the introduction of improved stock. The several state governments have experiment stations upon which improved stock is bred, and much of the stock on these model farms is coming from the United States, notably in Minas Geraes. The Federal Government in its department or ministry of industry, etc., has established a registration system for imported and improved stock which gives the authority of the Government itself to registrations of pedigrees. The Federal Government also not only admits such imported stock free of duty, but it pays the expenses of introducing the stock in the country other than the actual purchase money. While the regulations governing this bounty giving are complicated and delays attend their operation, the system is efficient so far as it affects those permanently in the live-stock business in the country.

While there are favorable prospects for live-stock development in Brazil, yet any American live-stock man planning to come to Brazil and establish a business should know that conditions in every line in Brazil are so different—conditions both industrial, agricultural, and otherwise—that calculations based upon American experience are not worth much here. Only after considerable experience in actual live-stock work in Brazil could importations of American stock by Americans be made with safety.

It seems possible to increase American sales of improved stock in Brazil by a system of investigation on the part of American live-stock growers of conditions in Brazil which American stock coming here will have to meet. Correspondence with the several state experimental stations and the federal authorities (ministry of industry, etc.), will probably pave the way for special preparation of stock designed for sale in Brazil which will improve the chances of such stock being successfully introduced, and increase and render permanent American trade. At least one state university in the United States has made investigations along this line, and there is every reason to believe that it will prove profitable.

URUGUAY.

STATISTICS OF SLAUGHTERING AND EXPORT OF HIDES, TALLOW, ETC.

Consul F. W. Goding, of Montevideo, submits the following report on the horse, cattle, and sheep industry of Uruguay for the year ended October 1, 1908, as compared with a similar period for the three preceding years:

The number of cattle slaughtered in 1907–8 was 954,120, as compared to 1,193,500 in 1906–7, 1,182,470 in 1905–6, and 920,183 in 1904–5.

The exports of hides, tallow, sheepskins, and hair for 1907–8, compared with the figures for the previous two years, and the countries to which they were exported, are given in the following table. The only increase of importance is in the tallow exports, the other lines being almost stationary.

Country.	Ox hides.	Horse-hides.	Tallow.		Sheep-skins.	Hair.
	Number.	*Number.*	*Pipes.*	*Hogsheads.*	*Bales.*	*Bales.*
France	198,234		608	558	11,579	105
Germany	323,261	21,724	286		1,278	66
Belgium	344,386				11	264
United Kingdom	19,633		3,219	5,910	95	37
Other European countries	362,914		9,931	2,618	772	380
United States	452,142					343
Orders	16,966					
Total, 1907–8	1,717,536	21,724	14,044	9,086	13,715	1,195
1906–7	1,774,471	35,899	13,341	1,973	14,443	1,549
1905–6	1,745,190	25,123	7,993	1,380	10,486	1,699

CANADA.

DOMINION GOVERNMENT COMPUTING ITS WEALTH IN CATTLE AND LANDS.

Consul-General John G. Foster, of Ottawa, forwards the following extract from the statistical report for 1908, bearing on the land values in the Dominion of Canada, the values of farm animals, and the averages of farm and domestic wages:

The average value of farm land for all the provinces in the Dominion of Canada is $35.70 per acre. In five of the provinces it is under $30, being $27.30 in Manitoba, $25 in Nova Scotia, $21.40 in New Brunswick, $20.40 in Saskatchewan, and $18.20 in Alberta. In Prince Edward Island the average is $33.70 per acre, in Quebec $41.90, in Ontario $47.30, and in British Columbia $76.10. Values are high in the last-named province, owing to the comparatively large extent of farm land there in orchards and small fruits.

The average value of horses at the end of the year is $46 for those under 1 year of age, $100 for those of 1 to under 3 years, and $143 for those of 3 years and over. Horses of the last class are below an average of $120 in Prince Edward Island, Nova Scotia and Alberta; in New Brunswick, Quebec, and Ontario they are about $140, and in Manitoba and Saskatchewan they are $170 to $176. Milch cows have an average value in the Dominion of $34, ranging from $29 in Prince Edward Island and New Brunswick to $36 in Ontario and

$37 in Saskatchewan, and in British Columbia the average is $48. Other horned cattle have an average value over the Dominion of $9 for those under 1 year, $21 for those of 1 to under 3 years, and $32 for those of 3 years and over.

The average value of swine is given as $5.86 per 100 pounds live weight, being lowest in Manitoba, Saskatchewan, and Alberta, and highest in Quebec, Ontario and British Columbia. Sheep are given an average value of $5.23 per head for the Dominion, and are below the average in the maritime provinces, Quebec, and Saskatchewan. The total value of farm animals computed on the foregoing averages and the number of animals on farms in June, 1908, was $530,000,000. The June price of wool for the Dominion was 18 cents per pound.

The average wages of farm and domestic help for the Dominion per month was $24.60 for males and $13.50 for females, and per year $209 for males and $130 for females. The highest averages are reported for the western provinces, where they reach about $300 per year for males and $160 for females. In Ontario and Quebec the average for males is about $240 and for females $120 per year.

AUSTRALIA.

ADELAIDE INTERESTS DESIRE DIRECT TRANSACTIONS WITH AMERICA.

Consular Agent George H. Prosser, of Adelaide, has addressed the following letter to Consul John F. Jewell, at Melbourne, setting forth the advantages to American manufacturers of purchasing their supplies of skins and wool direct from South Australia:

I have been approached by a firm of wool buyers, who are eager to negotiate with American buyers of large woolly sheepskins, rabbit skins, and greasy wool. I understand that at present these lines are chiefly purchased by London speculators, who supply the American market with their requirements, and if trade were transacted direct it would be to the advantage of the American manufacturers, inasmuch as this course would dispense with the speculator's profit.

During 1907 this Australian state imported over-sea wool valued at $9,548,838 and of this quantity only $129,502 was purchased for direct export to the United States. South Australian wool is highly regarded in the markets of the world owing to its quality. During the same year the state's exports over sea of rabbit skins were $171,335 and of this quantity only $122 was for direct shipment to New York. [American merchants and manufacturers desiring to take advantage of this suggestion may obtain the name of the Adelaide wool buyer from the Bureau of Manufactures.]

FOODSTUFFS.

PRESERVED FRUITS IN EUROPE.

MANUFACTURING DELICATE CONFECTIONS—EXTENSIVE AMERICAN TRADE.

Consul-General Robert P. Skinner, formerly at Marseille, has prepared the following résumé of the French method of making fruit confections. He likewise forwards a technical book on the subject, which may be consulted at the Bureau of Manufactures. Mr. Skinner's report from Hamburg reads:

For a great many years a particularly favored corner of Provence, the commercial center of which is Apt, has furnished the choicest preserved or, in popular parlance, "candied" fruits which reach either the European or American markets. In spite of a high rate of duty and an abundance of American fruit, these special products have found ready sale in the most expensive establishments in the United States. Within a smaller number of years the Apt concerns and one in Marseille have also shipped to America large quantities of cherries simply preserved in brine, which thus escape the high rate of duty applied to fruits preserved in sugar, and arrive in proper condition to absorb various liquors and then be sold as "Maraschino cherries" and probably under other designations.

I do not know that Provencal fruit is either more palatable or fairer in appearance than American. Indeed, these qualities do not necessarily count for much in "candied fruit," as the repeated boilings can not leave much of the original flavor or color. The manufacturing process must, however, leave the original form, which absorbs quantities of sugar and dyes that rival or surpass those of nature. It has been claimed by Apt packers that other fruits than those of Provence became shapeless and pulpy while undergoing the same treatment, but this pretension may be accepted with the customary grain of salt. My private conviction is that long experience and care, coupled with good materials, are accountable for French success, rather than any mysterious character of the fruit itself. I have eaten preserved oranges in Barcelona that were better than any I have eaten in Provence; Corsican citrons are world renowned; and the Apt people themselves preserve some kinds of fruit which do not grow in their own region.

FRENCH TERMS—PRELIMINARY CONSIDERATIONS.

The terms under which the French fruits are sold have passed into the English language. The trade understands the meaning of the words "fruits confits," and "fruits glacés." The former are fruits which retain their natural form and color and have absorbed quantities of sugar; the latter only differ from the former in that they have been redipped and given a crystalline coating of sugar, so that they are dry to the touch and agreeable to handle. So far as I am able to learn, this preserving process is carried on in this manner:

Healthy fruit is selected, which is gathered before its maturity, so as to be able to resist the succeeding operations. The first step is to soften the flesh, so that it may imbibe the sugar, and particular attention must be paid in the case of fruit like the pear, walnut, or quince, the pellicle of which is removed before the process begins, lest the white flesh thus exposed becomes rusty in appearance. To avoid this, fruits of this kind, from which the skin and defective parts have been removed, should be thrown into fresh water that has been slightly acidulated with lime juice or concentrated vinegar or, better still, with alum. The pared fruit should not be touched with the hands, but with a long pin, and should be held in this preliminary bath only long enough for the preparation of a sufficient quantity to begin the softening operation.

THE SOFTENING PROCESS.

The next important step is to so soften the fruit, through and through, that it will absorb the sugar readily. This in the French language is to " blanchir " it. Alum water is recommended for this purpose, and in such quantity that none need be added later after evaporation has reduced the original quantity. With pears they should " swim well " in a double-bottomed vessel, steam heat preferably being employed. An experienced operator knows by gently pressing the fruit between his fingers whether or not it is soft through and through. If it is boiled too much, it becomes a sort of marmalade; if not enough, it will not imbibe the sugar. Properly softened, the contents of the boiler are placed in fresh water, which is changed until they become perfectly cool. Pears may be heated until flexible and tender and then pared, or may be pared and then softened.

Fruits containing pits, like peaches or cherries, are placed in cold water, over a slow fire, and as they rise in the water they are removed, tested to ascertain whether they are soft enough, and then thrown into cold water. Quinces are cut in four, five, or six pieces before being softened.

For Reine-Claude plums there should be selected green plums, without yellowish rusty spots, which cause them to burst easily. Prick them on every side to the pit, and when softened by heating in plain water remove the vessel from the fire, throw in a handful of salt and plenty of vinegar. One hour later replace them on the fire and heat well; when they come to the surface quicken the fire, and when all have risen retire the vessel and put the contents in fresh water. The salt and vinegar tend to give back their natural green color.

In the preparation of apricots and peaches, wipe with a cloth, prick them, particularly in the unripened parts; heat on slow fire, and as they rise and are found soft enough throw into cold water.

TO PRESERVE OR " CONFIRE " FRUIT.

Fruit having first been softened must next be saturated with sugar. The material is first plunged into a weak sirup, which is concentrated gradually, with one day's interval between the degrees of concentration, according to the heat of the place where the operation occurs. It is sometimes necessary to have an interval of not more than twelve hours during the first few days, lest fermentation set in. This is what is called to give the fruit a "façon." To give it a "frémie" means to put the material in its sirup upon the fire and leave it until the sugar approaches the boiling point, in the meantime agitating the vessel occasionally.

According to their nature, fruits are treated differently. Fruits with pits must be placed in thin sirup and receive a frémie before two days, after which they are cooked until the sugar has had time to penetrate everywhere. To prevent certain fruits from candying, and particularly such as are charged with gum, a little glucose is added to the last façon. With firm green fruits the operation begins with a sirup of 25 degrees.

The material receives from six to eight façons, the sirup being strengthened each time by 2 degrees, and the last façon being made with a sirup of 36 degrees. Ripe and tender fruit is given a first façon in 28-degree sirup and is finished in sirup of 38 degrees.

Only one façon per day must be undertaken, unless under special circumstances (to prevent fermentation) two become necessary. Then it requires six days to complete the process. An ordinary façon lasts five minutes, during which the vessel is agitated occasionally. This period ended, the fruit is drained thoroughly, and the sirup, being first skimmed, is concentrated by 2 degrees and again poured over the material. After the last façon takes place care must be taken to allow the fruit to drain, after which it is allowed to repose fifteen days. To obtain first-class preserves, the sirup should be changed after the fourth or fifth façon. If it becomes troubled, add beaten white of egg in a little water. No more sirup should be employed at a time than is necessary to completely cover contents of the vessel, as it seems to penetrate more readily.

THE "GLAÇAGE" OF FRUITS—GENERAL OBSERVATIONS.

The "fruits glacés" are so prepared in order that they may be dry, agreeable to the eye, and easy to eat. To accomplish this the "fruits confits" are drained and slightly washed with tepid water to remove the sirup remaining on their surface. Next, to "glacer" them sugar is cooked until it bubbles. Into this liquid the fruit is dipped, removed, dusted with sugar, and then placed on a wire netting, the best face being uppermost. The glaçage should be thin and light, like a varnish; it should bring the color out and not hide it. Finally, the glaçage should be made at the last moment possible, as fruits are better preserved in sirup. As soon as fruits glacés are dry they should be packed in boxes.

I have said nothing about the dyeing processes for the sufficient reason that fruit packers say no more about them than necessary. These processes, and especially since the passage of the American pure-food law, are said to be entirely harmless. They certainly enable the packer to present a most attractive line of wares to the eye, although intrinsically the fruit is none the better for these color additions.

The delicious "marrons glacés" are not shipped to the United States in any quantity, as they will not bear transportation. Neither are the dates stuffed with pistache cream, nor the "marrons fondants." Most American "confiseurs" understand how to make these dainties. There are many others, however, which a name does not describe, and which appear at Marseille in the winter time in most attractive forms. Marseille has always been famous for its fruits and bonbons, a generous rivalry prevailing between a number of the celebrated local artists in these lines to produce annually something new and interesting, and usually something that can not be exported. It is a center which American "confiseurs" could profitably visit from time to time for the acquisition of valuable ideas.

FRENCH GLACÉ FRUITS.

A MANUFACTURER OF WIDE EXPERIENCE EXPLAINS HIS PROCESS.

Consul-General Horace Lee Washington forwards from Marseille the following description of various methods pursued in France in the manufacture of glacé fruit:

In an interview with one of the fruit manufacturers who has not only been engaged in the business for a number of years in this district, but has also had experience in the preserving of fruits in America, the following information of a practical nature was furnished, and is given in his own words, each of his statements having afterwards been carefully verified. Speaking first in regard to the fruit, he said:

Most of the French fruit preservers consider the fruits of Provence superior to all others, but I have manufactured Provence fruits in New York, and American fruit as well, and find that the latter are little, if at all, inferior to the former. The cherries of California are at least as good in quality as the French varieties. We manufacture more cherries than any other fruit, the demand for this fruit being almost unlimited in the United States; we have shipped as much as 300 tons of it to that country in one year. We have even obtained better results with the American cherries than with those of domestic growing. You have also in California very good varieties of apricots suitable for glaçage. The principal defect of the California fruit is that it frequently contains too much water, but I do not think this defect would prevent the manufacture of glacé fruits in California or elsewhere in the United States. If California growers would graft on their trees the apricots from the vicinity of Carpentras, Provence, they would obtain good results.

KINDS OF FRUITS USED—PREPARATORY TREATMENT.

The fruits must be just ripe; if they are too ripe they can not be well prepared on account of their softness, and if they are green they have a bad appearance. We buy fruit throughout the whole of southern France; we sometimes buy cherries even as far north as Dijon. Cherries, apricots, greengages, figs, pears, and almonds are the fruits principally used.

When the fruit is received our first care is to treat it with sulphur, this in order to improve its appearance and to destroy any microbes possibly lurking in it. There are two processes employed for this purpose. The one commonly used is to expose the fruits in cases or small baskets in a small room about 2 meters (6.56 feet) high, which is filled with fruit in baskets. We then insert in a jar about 2 to 5 kilos (kilo=2.2 pounds) of sulphur, according to the quantity of the fruit. For a room containing 3 to 4 tons we put 5 to 6 kilos of sulphur. If there has been much rain, and the fruit consequently is soft, less sulphur must be used, and more in the case of hard fruit. The idea is to secure complete impregnation of the fruit by the sulphur, which also has the effect of bleaching the fruit.

The second method is not often used, and consists of treating the fruit with a solution of 200 grams (7.05 ounces) of pure sulphurous liquefied acid to 100 kilos of water. The water thus strongly impregnated with the acid is used for bleaching the fruit, which is placed for that purpose in jars, into which the solution is then poured. According to the quality of the fruit, we leave it exposed for two to ten hours to the action of the liquid. We leave apricots one or two hours only, but cherries would remain from night to morning. The same results are obtained in the United States with sulphate of lime. The fruit is then placed in clear water for two or three days, the water being frequently changed during that time, after which it is considered sufficiently bleached. We then place it in steam kettles and boil it for ten minutes to one hour, according to the hardness of the fruit; it must be brought to such a state that the sugar sirup about to be applied may penetrate readily into it.

APPLICATION OF SIRUP.

After the fruit has been boiled, we begin the sugar process. The fruit is removed from the water and drained for ten to twenty minutes, then placed in earthenware jars containing a certain quantity of sugar sirup. Some manufacturers use sugar at 20° Baumé concentration, some at 25°, and others at 28°. This is a question of personal appreciation and depends also on the condition of the fruit. If the cherries appear soft, we make the sirup more concentrated; if they are hard, we use it at 15° to 20° concentration. The contents of the jars are emptied after a few hours into steam kettles containing sugar sirup. By boiling, part of the sirup evaporates and is replaced by an equal quantity of sirup in order to preserve the percentage of sirup and fruit. The fruit is left in the jars for one day, and is again boiled in the kettles on the second day, then remaining in the jars for two days. After the second operation the fruit remains in the jars three days, and so on for five, six, or eight boiling operations, the interval between them being longer each time, the fruit sometimes remaining from six to eight days before the final boiling. At each addition of sirup the concentration is made greater. The application of the sugar should not be done hurriedly, otherwise the fruit, instead of absorbing the greatest possible amount of sugar, will shrink and become corded in the interior, thus spoiling its appearance. It is to our interest to apply the largest possible quantity of sugar, as the more sirup the fruit contains the greater our profit.

We boil the fruit at least six or eight times, according to the size, the operations covering a period of at least six weeks, during which time it absorbs the largest possible quantity of sirup. At the final boiling the sirup is concentrated to 35° Baumé, and after this operation we regard the fruit as capable of being kept for a long period. We have known it to remain in good condition for two or three years. However, if kept too long the appearance suffers, though the eating qualities remain unaltered. After the final boiling the fruit is allowed to remain in the highly concentrated sirup, in a cool place, not too dry nor too damp, and of even temperature. At this stage the fruit is known to us as "fruit confit."

PREPARATION OF FRUIT FOR MARKET.

On receipt of an order from a client, a sufficient quantity of the fruit is removed from the jars and drained of its sirup. This is done by placing it in willow baskets and allowing the sirup to drain through the openings of the baskets. We now proceed to the operation of glaçage, which is the final stage of the preparation of the article for the market.

For this operation the fruit, drained of its sirup, is placed in a solution of pure concentrated sugar, at about 45° Baumé concentration. While it is in this solution we change the nature of the liquid by an operation known to us as the "massé." This consists in rubbing one side only of the inside of the kettle with a piece of wood about 2 feet long by 1½ inches thick, as a result of which the sirup at that point becomes chemically changed and turns white. The fruit is then brought into this white liquid, where it remains for a few minutes only. It is then removed and placed on iron grills. The coat of sugar remaining on the fruit dries rapidly in the air. The fruit thus prepared is known as "fruit glacé," and can be immediately packed in boxes for the market.

When the fruits are intended for shipment to points beyond the equator, it is necessary, in order to render them more durable, to submit them to a further treatment known as "crystallization." The fruits are taken and placed in a dry oven at 60° centigrade, and at the end of one or two days are placed in receptacles of iron, known to us as "candissoirs." While here we pour on them a sirup at 35° centigrade and place the "candissoirs" in a hot oven, where they remain for about twelve hours. At the end of that time, under the action of the heat, the sugar sirup forms small crystals on the fruit, and then, when we see that the crystallization is sufficient, we empty the sirup, and after a few hours the fruits are dry and ready for shipment, being then known as "fruits crystallisés."

REBATES INSIGNIFICANT—USE OF GLUCOSE ESSENTIAL.

We use a good quality of crystallized sugar, costing at present about 55 to 56 francs per 100 kilos (franc=19.3 cents), and require 100 kilos of it to make the same quantity of fruit. As to the rebate allowed by the French treasury on exported sugar, I would say that this is less important to us than is generally thought. The rebate amounts to 25 francs per 100 kilos. But supposing 100 kilos of fruit to contain 50 kilos of sugar, we should in theory receive 12.5 francs rebate thereon. In actual practice, however, owing to the chemical change in the sugar effected by the boiling, and the presence of the glucose, which is essential, the fruit actually contains only 20 kilos of true sugar per 100 kilos, and it is of course on the true sugar alone that we receive the rebate. This fact and the heavy expenses for experts at the custom-house explains why we really benefit very little from the rebate system.

We have found it very difficult, if not impossible, to make these fruits without a certain proportion of glucose, as the exclusive use of sugar, which I may remark is cheaper than glucose in this country, would render the fruit too hard or candied, and therefore unsalable. The use of glucose prevents this. My personal opinion is that a proportion of 20 per cent glucose and 80 per cent sugar is quite sufficient to give good results, but this is a matter of personal appreciation, as I have known as high a percentage as 50 to be used with good results. No hard and fast line can be laid down for this, any more than for many other features of the fruit-preserving business.

The glucose which enters into the sirup of sugar is composed as follows:

Glucose	67.50
Dextrine	9.00
Foreign matter	4.00
Water	19.50
Total	100.00

PERSONAL ELEMENT INVOLVED—OTHER METHODS.

The investigator seeking information as to French methods of preserving candied fruits finds one condition ever present, and that is the personal element that enters into all stages of the process. The treatment must be watched by experienced men with some natural facility for the work, and, much as the treatment of the grape has to do with the resulting wine, the fruit manufacturers believe that great care and precision are needed in obtaining the best results in handling fruit.

The process as described is one employed by a successful manufacturer, but there are other methods, differing somewhat in detail, which also produce excellent results. Others hold that the fruit should be gathered shortly before it ripens, instead of at the moment of maturity, since it is then firmer and therefore better adapted to the handling that follows the various processes. Also, it is thought best to gather the fruit in the morning and during a dry period. Attention to such small details that may seem unimportant is likely to be rewarded by a difference in the product between medium and first class. It is a well-known fact that wine put into bottles on a cloudy day does not equal the same wine bottled on a still, sunny day. The success of the Provencal fruits in the market results very largely from this same attention to detail.

From other sources of information the following methods are obtained: Bleaching should be varied with the quality and color of the fruit. If the fruit is bleached too much, it turns to marmalade, and if the process is not sufficiently continued it becomes shredded and the sirup ceases to penetrate. A popular method of bleaching is by the use of a pan with a double bottom, by means of which the fruit is steamed. This is done to prevent burning or bursting of the fruit. This process should be employed only for hardier fruits, and always for chestnuts (marrons glacés). In bleaching the fruits from which the skin has been removed, particular care must be taken to prevent them turning brown. To avoid this, they should be carefully thrown with a pin used for this process into fresh water slightly acidulated by means of lemon juice or concentrated vinegar or, better still, steeped in alum water. This operation requires constant watching and, depending upon the quantity of fruit used, a sufficient number of operators to guard against the fruit remaining too long in the solution employed. Sufficient water should be used in the first place to cover the fruit, but should it become necessary to add more, that which is added should be boiling. They are then placed over a good fire, preferably in skillets, and covered with white linen or dampened paper.

BLEACHING OF PEARS, CHINOIS, AND GREENGAGE PLUMS.

The proper degree of bleaching is determined by feeling the fruit gently in order to ascertain the softness of the interior or by piercing with the pin employed for this purpose. If the fruit on which the trial is made falls from the pin, it should be promptly taken from the fire and plunged into fresh water, which should be changed until it becomes cold. The above method applies generally. For the bleaching of pears two methods are employed. The first is to place the fruit, as indicated, in water over a fire and to let it come to the boil until the pears are flexible and tender, then to plunge into cold water and peel carefully, preserving the form of the fruit. The second method differs from the first in that the pears are peeled prior to the treatment, and in this method use is made of alum water or acidulated water, as already described. A careful method for producing a high quality of fruit is to rub the pear as soon as peeled with lemon, which prevents the browning so much feared in treating the more delicate white fruits.

In the bleaching of "chinois," a species of small lemon, which enters largely into the exports to America, the fruit is first prepared by carefully cutting the outside of the green peel and then plunging the fruit into alum water. It is then placed in water over a very strong fire and boiled vigorously until it becomes soft. The pan is then taken from the fire, and a little salt with a little vinegar is added. The pan is then covered with a linen cloth and allowed to remain for one hour, when it is uncovered and replaced over a strong fire until the fruit has become sufficiently softened to fall from the testing pin. The "chinois" are then placed in cold water, in which they should be left for two to three days, in order to lose the taste of the salt and vinegar. The outside cutting of green peel cut off is treated with the "chinois," but removed in the last operation as soon as it becomes tender.

Greengage plums, known commercially as "reine-claudes" (the plums which have a yellow tint or brown spots are refused, since they are likely to crumble in the process of bleaching), are submitted to the same treatment as the "chinois," save that the outer covering of skin is not removed, but the fruit is pierced to the stone to facilitate the softening process. The salt and vinegar treatment serves to preserve the green color, and if with this treatment the fruit becomes somewhat light in color, the tint will deepen when the sugaring stage is reached.

SUGARING PROCESSES—APRICOTS.

It is thought that these descriptions will suffice, as most of the fruits may be subjected to one or the other process. The following are different treatments in the sugaring stage, which may also serve as types of general treatment for fruits of similar character:

The apricots, while still firm and of a yellowish tint, are peeled by regular cutting from the head of the fruit to the stem. They are then cut in two, the kernels removed, and as soon as cut placed in fresh water slightly acidulated with lemon juice. They are then bleached. After careful draining the fruit is placed in hot sirup at 20 degrees and left over the fire until the sugar approaches boiling point, the fruit being shaken from time to time in order to receive the heat evenly. The fruit and sirup are then placed in an earthen pan.

The second day the apricots are placed on the drainer, while the sirup is concentrated to 22 degrees in the boiling vessel, in which the fruit is placed and boiled gently if soft, and more completely if firm.

On the second, fourth, fifth, and sixth days this operation is repeated, bringing the sirup to 26, 28, 30, and 34 degrees on the respective occasions. The fruit is thereafter replaced in the earthen pan and allowed to remain during fifteen days. On the sixth day, with the sirup at 34 degrees, a small quantity of glucose is added (from 5 to 10 per cent of the weight of the sirup) to prevent the fruit from becoming candied. Some manufacturers employ the following progression: First day, sirup at 20 to 22 degrees; second day, 22 to 24 degrees; third day, 25 to 27 degrees; fourth day, 28 to 30 degrees; fifth day, 31 to 33 degrees; sixth day, 34 to 36 degrees. In the case of whole small apricots, they are not peeled, but are simply pricked with the pin, particularly in the green parts. Large fruit is trimmed with an ordinary knife or a jagged knife in such manner as to render the sides regular. Apricots in quarters are sugared in the same manner, some being glacéd and candied when they are sugared.

Green apricots are bleached very thoroughly with water containing very little carbonate of potash and afterwards with lukewarm water. They are rubbed with a cloth to remove the down which covers them and washed a number of times in fresh water. They are sugared as in the case of whole apricots.

Stuffed apricots are whole apricots, sugared, in which the place of the kernel is taken by a small sugared fruit or by marmalade or fruit jelly.

CHINOIS AND CHERRIES.

As fruits with a covering of peel are less readily penetrated by the sugar, they must be handled more gently, particularly such as are preserved whole, as, for instance, the "chinois." This is why the point of a knife is planted in them before bleaching. The next day, after having been placed in sirup at 20 degrees, they are simply heated in their sirup, allowed to approach boiling point, and replaced in the earthen pan. The third day they are drained, the sirup brought to 22 degrees, and the fruit placed therein and given a boiling. The sirup may also be brought to 22 degrees the second day and allowed to approach boiling point on the third. The fourth day they are drained, placed in the sirup at 24 degrees, and allowed to receive a boiling. The fifth day the fruit is placed in the sirup over the fire, allowed to approach boiling point, and returned to the earthen pan. The sixth day the fruit is allowed to receive a boiling in sirup at 26 degrees. On the seventh day the operation of the fifth day is repeated. On the eighth the same operation as on the sixth, with sirup at 28 degrees. On the ninth day the fifth day's operation is again repeated, and on the tenth the fruit is finished, as in case of apricots.

Cherries are deprived of their stems and pits, the latter by means of a pen or of a wire bent into the form of a spoon, in order to open the fruit as little as possible.

The quantity of powdered sugar should be the same as that of the pitted cherries. Alternate layers of cherries and sugar are placed in an earthen pan in such manner as to allow the cherries to be closely in touch with the sugar, and left thus until the next day. The fruit is then allowed to drain, and the cherries yield their juice which contains all the sugar in form of sirup. The juice is concentrated by passing through a strong cloth and poured on the cherries. The third day the fruit is again drained, and for each four parts of cherries is added one part of freshly pressed currant juice to the sirup on the fire. It is then cooked in a strong cloth, the cherries thrown into it, allowed to boil once or twice, after which the liquid is skimmed and the cherries withdrawn. After cooling they are placed in jars.

It will be noticed that this process allows of the use of the cherry juice for making the sugar sirup. With this sirup it is possible to proceed as in the case of apricots, in four or five operations, increasing the strength of the sirup by two degrees each time. This is the best process, and which, it is advised, should be followed. Pitted cherries may be treated as in the case of apricots.

PREPARING AND BLEACHING CHESTNUTS—SPECIAL APPARATUS.

The treatment of the chestnut varies from the foregoing in most of the details. It is because the successful glacéing of the marron requires such particular care that in its glacéd stage it becomes one of the most expensive products. The marron to be treated must be large, well rounded, without fibrous divisions, yielding easily its first and second envelope, permeable to the sugar sirup and yet sufficiently firm not to break.

The hard skin or shell must first be removed with the point of a knife with sufficient skill not to touch the marron, this making it swell easily at the bleaching. As they are peeled they are thrown into fresh water. When they are all thus prepared, they are placed in a pan and covered with water and allowed to cook over a strong fire for one hour, the cooking being stopped when they are sufficiently tender. They are removed from the fire, but left in the pan with the hot water. They are removed with a skimmer and peeled while still hot, being then thrown into a hot sirup at 20° concentration. The boiling water is changed when they are cooked in order to render them whiter. It is well to employ the greatest possible number of persons in the peeling, as the chestnuts last handled are almost invariably too much bleached. The greatest caution must be exercised not to break them in the peeling or placing in the sirup.

A special apparatus for the bleaching of the chestnuts has been devised, and is used by the larger manufacturers, as the nuts are broken to such a great extent when treated in the ordinary manner. [This apparatus is shown in a catalogue on file in the Bureau of Manufactures.] In this apparatus the marrons are placed in trays, which are inserted one above the other in a metal container. The trays are of tinned copper and perforated, and are so arranged in the container that they may be loaded or unloaded together in one operation. The container is then lowered into the bleaching basin, which is provided with a double bottom, and heated by a constant ascending current of hot water, which assures an equal temperature to all the trays. Another system also employed provides for the heating of the bleaching basin by means of a steam coil.

NEED OF GREAT CARE IN SUGARING CHESTNUTS.

If the bleaching of the marrons requires great care, the application of the sugar calls for still greater precaution to avoid breaking the nuts. The marrons are placed in a flat-bottomed earthen pan, with sirup at 20 degrees, and then left all night on the stove or the oven at 60° Centigrade. The earthen pans are provided with holes in the lower part, to permit of the withdrawal of the sirup. This is done next day, the sirup being brought to 22 degrees concentration, allowed to cool at 60° Centigrade, and poured over the marrons placed in the pans. They are then left one night in the oven and the operation repeated the next day. This is done five or six times. The surface of the sirup in the pans is covered with white paper. The chestnuts must be treated with the greatest care, leaving them to cool in a water bath. In the larger establishments they are not put on the stove, but a particular apparatus is made use of, which is a continuation in the sugaring process of the apparatus used for bleaching. Its use lessens the risk of the fruit breaking, and enables the sugar to penetrate more readily. Several plans of these machines have been examined, but the more modern, which change from the round to the rectangular, are regarded as superior, as occupying less space. The apparatus consists of a double-bottomed receptacle with water in the lower basin heated by a coil. The upper basins are thus surrounded with vapor at a low pressure, which allows the degree of heat to be readily controlled, and the fruit can by this means be preserved in a lighter color. A steady heat of 80° Centigrade is recommended during all the time of the operation. The addition of fresh sirup is effected by sprinkling the upper part, the denser sirup of the lower portions being withdrawn by a spigot. A special arrangement directs the flow of the sirup evenly over all the layers, so that perfect regularity in the process of manufacture is obtained. The whole operation is terminated by the usual glaçage and drying; it is possible by the use of this process to produce the finished marrons glacés in forty-eight hours.

SCHEDULES OF TEMPERATURES AND DENSITIES.

For the clearer understanding of this report, the following tables are here given:

Solubility of sugar in water at different temperatures.

Temperature (C.).	Sugar, per cent.	Degrees Baumé—		Temperature (C.).	Sugar, per cent.	Degrees Baumé—	
		At temperature observed.	At +15° C.			At temperature observed.	At +15° C.
0	64.70	35.30	34.60	55	72.80	37.50	39.30
5	65.00	35.35	34.90	60	74.00	37.90	39.90
10	65.50	35.45	35.20	65	75.00	38.30	40.55
15	66.00	35.50	35.50	70	76.10	39.60	41.10
20	66.50	35.60	35.75	75	77.20	39.00	41.70
25	67.20	35.80	36.25	80	78.35	39.30	42.20
30	68.00	36.00	36.70	85	79.50	39.65	42.80
35	68.80	36.20	37.10	90	80.60	39.95	43.30
40	69.75	36.40	37.50	95	81.60	40.10	43.70
45	70.80	36.75	38.10	100	82.50	40.30	44.10
50	71.80	37.10	38.70				

Densities of solutions of sugar in water.

Sugar.	Water.	Specific gravity.	Degrees (Baumé).	Volume in liters (1 liter equals 0.26 gallon).	Sugar in—		Sugar.	Water.	Specific gravity.	Degrees (Baumé).	Volume in liters (1 liter equals 0.26 gallon).	Sugar in—	
					100 liters (26.41 gallons).	100 kilos (220 pounds).						100 liters (26.41 gallons).	100 kilos (220 pounds).
100	50	1,345	37	111.5	89.68	66.6	100	250	1,147	16	305	32.7	28.5
100	60	1,322	33.75	121	82.64	62.5	100	350	1,111	12.50	405	24.6	22.2
100	70	1,297	32	131	76.35	58.8	100	450	1,089	10.15	505	19.8	18.1
100	80	1,281	30.50	140.5	71.17	55.5	100	550	1,074	8.50	605	16.5	15.3
100	90	1,266	29	150	66.66	52.6	100	650	1,063	7.50	705	14.18	13.3
100	100	1,257	27.25	159	62.88	50	100	750	1,055	6.50	805	12.42	11.7
100	120	1,222	25	180	55.55	45.4	100	945	1,045	5	1,000	10	9.5
100	140	1,200	22.50	200	50	41.6	100	1,145	1,030	3.50	1,500	6.66	6.4
100	160	1,187	21	219	45.66	38.4	100	1,945	1,022	2.50	2,000	5	4.8
100	180	1,176	19.50	238	42	35.7	100	2,445	1,018	2	2,500	4	3.3
100	200	1,170	18.50	256.25	39	33.3	100	2,945	1,015	1.75	3,000	3.33	3.2

OLIVE CROP REPORTS.

TURKEY.

REDUCTION IN OUTPUT—SOME OIL AVAILABLE FOR EXPORT.

The series of reports on the present season's olive and olive-oil yields of Mediterranean countries is supplemented by the following from Vice-Consul-General Oscar S. Heizer, of Constantinople:

It is estimated that the entire Turkish output of olive oil will not exceed 900,000 quintals (Turkish) or, say, 50,000 tons. The principal centers of production are Aidin, Baindir, Odemich, island of Mitylene, Edremit, Aivaly, Kulluk, and the islands of the Archipelago. This crop is below the average of 70,000 to 75,000 tons. It is, therefore, relatively insufficient to meet local requirements and foreign demands.

The olive-oil crop in Greece, Crete, Italy, and Morocco has completely failed. The crop of Tunis is estimated at about 10,000 tons, or about one-fourth of its average crop.

As far as Spain is concerned opinion is divided, but it is believed that the country possesses a very considerable stock of last season's oil, and that the present crop will reach about one-third of that of a good year. Spain is the largest olive-oil producing country in Europe. A good harvest gives about 500,000 tons of oil. Its home consumption is very considerable, and it is probable that the high market price will prevent its exportation. If next spring the olive groves give hopes of a large crop, the prices of Spain will drop, affecting foreign markets, the American included.

The crop of Turkey alone gives any hopes whatever of export. Southern Russia, Roumania, Bulgaria, northern Asia Minor, Egypt, Tripoli, etc., draw their supplies from the Levant, which includes Greece and the island of Crete.

The stocks on this market are nil, and the arrival of the newly pressed oil is anxiously awaited. Important orders are expected from France and Italy, which have already sent their agents to Smyrna to make important purchases. From the foregoing it is only natural that this market is firm and the prices paid for local consumption as well as export are in the ascendant. Compared with the yield in Spain, which often reaches 500,000 tons, the Turkish crop this season is an insignificant 10 per cent, which is all the more to be regretted as the climatic conditions are eminently favorable to olive culture and the trees grow wild in more than one province.

The exportations from Turkey amount to about 12,000 tons, valued at $1,851,529 for the year ending March 13, 1906, while the imports were 2,550 tons, valued at $380,287. Both exports and imports average 6 to 7 cents per pound, although the oils imported are superior French and Italian oils.

Another fact bearing upon the quality of this product must not be overlooked, and it is that in many regions the system of olive pressing is most rudimentary and in some districts is very similar to that employed by the ancient Jews. There is certainly great need of modern machinery and more scientific methods in order to secure the best results from the oil industry in this Empire, which is so well adapted by nature and climatic conditions to be one of the leading olive-oil producers of the world.

SYRIA.

GREATLY CURTAILED PRODUCTION IN ALEPPO PROVINCE.

Replying to a New York inquiry concerning the olive crop of 1908 in the Aleppo district of Syria, Consul Jesse B. Jackson writes:

The statistics of the local government show that in the year 1907 the province of Aleppo produced 1,599,259 okes, equal to 4,397,962 pounds, of olive oil, figuring the oke at 2¾ pounds, with a total value of $748,000. These figures cover the amount of first-quality oil, pure yellow commercial oil, and a low-grade oil commonly used for soap manufacturing, but as no record was kept of each distinct quality, no separate figures can be given showing their respective amounts. The average value was estimated at 46¾ cents per oke.

Recent careful inquiry in the olive-producing localities indicate that the crop for 1908 is deplorably short, it being estimated at less than 25 per cent, and probably not to exceed 20 per cent of the product of 1907, or possibly 319,852 okes, at the present market price valued at $149,600.

It does not appear that Aleppo province has ever furnished any considerable amount of olive oil for export, except that a certain amount goes annually to Constantinople. This season, however, as the crop is so very small, home demand will consume the whole product, together with any supply that may be on hand in storage from the previous season, and the price, which is beginning to show signs of rising, will be regulated accordingly.

The great uncertainty of having a successful season creates much dissatisfaction among the growers, and it not infrequently occurs that a proprietor becomes so disgusted with the business that he cuts down his trees, sells the trunks and largest branches to the cabinetmakers, where he obtains fabulous prices, and the roots and other parts to the city inhabitants for fuel, thereafter cultivating the soil for the raising of cereals, etc. Notwithstanding these facts, the already extensive and thrifty orchards of Killis, Harem, Antioch, Nedjib, and Kosseir are being yearly added to, and the production is gradually averaging a greater quantity.

PALESTINE.

VERY SMALL OLIVE CROP THROUGHOUT THE REGION.

In answer to a New York communication relative to the olive crop in Palestine, Consul Thomas R. Wallace states, that a report covering the immediate district in and about Jerusalem would be of little value as information affecting the market of the same as a commercial product. He therefore covers a wider scope:

The information gathered from the various olive-producing countries bordering on this district, as well as Asia Minor and Egypt, would indicate the olive crop at the best is this season far below the average, while in many places it is almost a total failure. In and about Jerusalem it is rated at a fifteenth of a crop, other neighborhoods it is a tenth, others an eighth; these ratings cover the general conditions of the crop in Palestine, so far as I am able to learn. In the large producing districts in Asia Minor it is reported at the best but half a crop, while in Egypt it is reported as almost a failure.

I am informed there is considerable oil kept over in storage, but not enough to affect the market prices. The stock on hand with the product of this season's crop will not nearly supply the local demand, and many are resorting to other articles as a substitute.

The price of oil is always lowest at this time of the year (December), but it is now higher by 50 per cent than at any time last season. Very little of the olive crop is shipped from this district in any form, except when manufactured into soap, but this season there is not enough to supply the local demand. The olive oil put upon the market is not tested, nor is it analyzed, so that it is impossible to determine the quality from that source.

The pulp of the olive is pressed three different times, and the quality or grade is fixed from that fact. The product derived from the first pressing is the highest grade, the third is the poorest. Oil derived from the third pressing is never put upon the market in this district. It is contracted for in advance by the soap manufacturers; therefore no market price is fixed to this grade.

The first two pressings are used as "edible," the third never; its color is black and much of the pulp is mixed with it. It is said a better soap is made by mixing with it the better grades. The best quality of olive oil now sells on the market at 80 cents per gallon, a poorer quality of the same grade at 75 cents, and the cheapest offered is 60 cents per gallon. There is no market price fixed for the third pressing.

[The consul sends the name of an American who is just beginning a business in olive products at Jerusalem, and whose address may be secured from the Bureau of Manufactures.]

SPAIN.

SHIPMENTS FOR RECENT COMPARATIVE YEARS.

Consul-General Frank D. Hill, of Barcelona, writes that the full statistics covering shipments from Spain of olive oil for the calendar year are now available. The exports to principal countries, compared to the previous year, were:

	1906.	1907.		1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Cuba	3,172½	3,326¼	France	1,251½	492½
Argentina	2,784½	2,942½	Other countries	3,538½	1,877
Uruguay	1,489	1,542½			
Italy	6,775¼	649¼		18,911¼	10,830

FOREIGN SUGAR TRADE.

ASIATIC-TURKEY.

CHANGED CONDITIONS IN THE IMPORTS AT SMYRNA.

Consul-General Ernest L. Harris, writing from Smyrna under date of December 14, gives the following account of the sugar importations at that commercial metropolis of Asia Minor:

Thus far Austria has supplied Turkey with the most of the sugar used throughout the Empire. This has been done in spite of keen competition on the part of Germany and France. Recent events, however, have caused a great slump in the amount of sugar imported from that country. No less than 20,000 sacks of different brands, ranging from $6.08 to $6.61 (cost, insurance, and freight), Smyrna, were ordered during the month of October, to be delivered in this city between November and March. Every Austrian vessel arriving in the harbor from Trieste has large cargoes of sugar which can not be discharged owing to the refusal of the custom-house porters to handle Austrian goods. In consequence of this situation deliveries between now and March 1 will grow less, no matter whether the goods remain in Smyrna or Trieste.

IMPORTS FROM RUSSIA AND FRANCE.

During the last month Russian sugar has been finding a ready sale in Smyrna, the average being about 2,000 sacks a week, at from $5.30 to $5.65 a sack. This sugar is crystallized and is used chiefly for confectionery purposes, after being purified. The quality is not sufficiently good for household consumption, nor is it economical from many points of view, but the Turkish population in the city and country prefer it to Austrian sugar.

During the past fortnight attempts have been made to import large quantities from France, Belgium, and Egypt. No less than 15,000 sacks were shipped to Constantinople last week from Marseille. Salonica and Beirut have also taken large quantities. This unlooked-for event has obliged French sugar refineries, which did not expect such a sudden demand, to immediately raise the price. This circumstance has caused Smyrna dealers to be cautious in buying French sugar, for the reason that they fear that a return to normal prices would leave them stranded with a large quantity of high-priced sugar. On the whole, however, less of the French article has been imported in Smyrna than has been the case in other parts of the Empire. French sugar is 20 per cent dearer than that imported from Trieste, and if conditions should suddenly change that brought from Marseille would have to be disposed of at a sacrifice.

The French Chamber of Commerce in Smyrna has advised French manufacturers in every branch of trade who are trying to profit by the present unpopularity of Austrian goods not to increase their prices unnecessarily, as they can not hope to retain the trade under normal conditions if they do so, while, on the other hand, they may reasonably hope to, providing they keep prices moderately firm, and thus lay a foundation for the future.

JAPAN.

PROTECTION FOR SUGAR GROWERS.

Consul John H. Snodgrass, of Kobe, writes as follows in regard to the question of sugar taxation in Japan:

One of the most perplexing problems to be discussed at the next session of the Diet will be the reenactment or repeal of the law relating to the reimbursement of the customs duty on imports of crude sugar, the law ceasing on March 31, 1909. From past experiences a fierce contest will be waged between refiners and crude-sugar producers in Japan.

In commenting upon this subject, a well-informed local vernacular journal concludes that if the reimbursement of the duty is discontinued at the present day, when the crude-sugar producing industry in Formosa is still in a primitive condition, the sugar-refining industry in this country will be seriously affected and the sugar-refining companies will be compelled to discontinue their business. The result will be a heavy increase in the import of refined sugar, which will in turn seriously affect the finances of the Empire. This being the case—in other words, it being necessary for the Japanese people to provide profit for the sugar refiners—the law can not be abrogated before the customs tariff on sugar has been increased by the revision of treaties in 1911. The Government is, therefore, prepared to introduce a bill for the continuation of the law in question, and the outlay for the reimbursement of duty on crude sugar, which is estimated at $3,000,000, is included in the budget. It is understood, however, that the rate of reimbursement will be somewhat lower in the bill than the present rate in consideration of the condition of the sugar industry in Formosa.

REFRIGERATED PRODUCE TRADE.

CONSUMPTION OF COLD-STORAGE PROVISIONS IN THE UNITED KINGDOM.

Vice-Consul W. J. Sulis, of Liverpool, sends a report on the development of refrigeration in the transportation of foodstuffs, and the increased imports of such articles into the United Kingdom, of which the following is a résumé:

The transportation and preservation of perishable produce has become one of the most serious problems which can engage the attention of engineers and others interested in the efficacious and rapid dispatch of foodstuffs from one part of the world to the other. Statistics and statements from high authorities go to show that the transport and preservation of perishable produce is an enormous and growing business, and likely in the future to be one of the most important in the world. In the annual report of the British board of agriculture the following reference to the dead meat imports into the United Kingdom is made:

> To the development of this trade the resources of science and the ingenuity of inventors have greatly contributed, and the capital employed in it is now very great. It appears highly probable that the dead meat trade will continue in the future to increase year by year with the ever-growing requirements of our population, while the oversea transit of live animals may be expected to diminish and eventually to disappear as a relic of an age of imperfect economic development.

SOURCES OF FOOD SUPPLY—REFRIGERATOR SHIPS.

In spite of the careful fostering of home industries intended to provide the food supply of the United Kingdom, the imports of provisions are regularly increasing. Instead of drawing on near-by countries, the English people are looking more and more to their colonies in distant parts of the world for these supplies. This is made possible by the present methods of refrigeration.

There are 358 ships engaged in the trade of the United Kingdom that are fitted in part or throughout with a total refrigerating capacity of 36,266,000 cubic feet. Of this number, 71 ships, with a capacity of 3,341,000 cubic feet for perishable produce, bring supplies from the United States; from Australia and New Zealand, 92 ships, with 15,514,000 cubic feet cold-storage capacity, bring chiefly beef, mutton, and butter; from Canada come 47 ships, with 1,829,000 cubic feet capacity, chiefly with meats and dairy products. The number of ships coming from South America carrying refrigerated cargo is not given, but their capacity for this class of goods is placed at 7,611,000 cubic feet.

The port of London is at the head of the list in the number of vessels and their carrying capacity, and takes most of the Australian and New Zealand cargoes, while Liverpool is second and takes most of the North and South American cargoes. However, the shorter trips of the Liverpool steamers bring the yearly sailings and capacity as high or higher than those of London.

COLD-STORAGE WAREHOUSES—INCREASED IMPORTS OF FOODSTUFFS.

As the large quantities of foodstuffs arriving in this country can not be distributed direct to consumers, cold-storage warehouses have increased at the various seaports, in large centers of population, and at the principal distributing markets. The following table shows the approximate refrigerating capacity of these warehouses in the principal towns:

Towns.	Capacity.	Towns.	Capacity.
	Cubic feet.		*Cubic feet.*
London	9,000,000	Cardiff	500,000
Liverpool	4,000,000	Leith	250,000
Southampton	2,000,000	Hull	250,000
Glasgow	1,500,000	Other towns	3,500,000
Manchester	1,000,000		
Bristol	500,000	Total	23,000,000
Newcastle	500,000		

The value of butter imports into the United Kingdom increased from $38,920,417 in 1887 to $108,951,120 in 1907, the largest increase coming from Australia. In meat imports the value increased from $188,160,046 in 1903 to $202,651,818 in 1907. The average annual value of imported fruits, apples, apricots, peaches, oranges, pears, plums, lemons, and bananas for five years, from 1900 to 1904, was $38,086,016, while for the imports of 1907 the value was $45,257,228.

In the following table is given the average yearly import per head of population in the United Kingdom, of the principal food products, taken in five-year periods from 1861 to 1905:

Period.	Population.	Meal and flour.	Meat.	Margarine.	Cheese.	Lard.	Eggs.
		Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Number.*
1861-1865	29,459,465	224	5.9	3.9	2.9	1.3	9
1866-1870	30,696,335	255	4.2	4.3	3.4	0.9	14
1871-1875	32,189,540	335	10.9	4.8	4.7	1.8	19
1876-1880	33,929,039	425	19.2	6.2	5.7	2.5	22
1881-1885	35,466,129	423	18.9	7.2	5.7	2.5	26
1886-1890	36,891,588	436	23.3	8.7	5.8	3.1	31
1891-1895	38,529,228	488	30.4	10.4	6.3	3.8	36
1896-1900	40,410,538	525	43.7	11.6	6.8	5.4	44
1901-1905	42,375,114	527	45.9	13.2	6.8	4.9	53
Per cent increase		230	780.	340.	230.	380.	600

COLONIES STRIVING FOR PROVISION TRADE.

There is great activity displayed by the British colonies to encourage the export of dairy products. In Canada, factories are encouraged and assisted to install small refrigerating plants so that the manufacture of the article may be carried out under the best conditions, and such produce can be delivered to the railways in a cool and firm condition. The railroad companies are paid a small subsidy under an agreement to provide an adequate number of properly iced cars, and to run these on scheduled time.

Steamship companies are encouraged to provide cold storage and air-cooled space, and inspectors are employed to see that the produce is properly attended to, and that the transit arrangements receive the necessary attention. It is contended that by virtue of this complete cold-storage chain and the elimination of all factors likely to injure the quality of the marketed article that the Canadians have secured a large portion of the dairy-produce trade. The New Zealand Government, too, has taken charge of the dairy-produce exports and is insisting on everything from the cattle to the ship being in proper order. While the Australian States are not so far advanced, they are moving on the same lines.

In the same manner Canada, Australia, and New Zealand are dealing with fruit exports with a view to securing uniformity of grading, general excellence in their exports, and the provision of proper transport and handling facilities by the railroad and harbor authorities. Apples, oranges, and bananas are the principal fruits imported, but the more delicate varieties are also received in this country in large quantities. Much of this imported fruit comes in refrigerator ships, and it is the most delicate class of cargo to be dealt with.

CUBAN ORANGE GROWING.

MISLEADING STATEMENTS OF PROMOTION COMPANIES CORRECTED.

The Bureau of Manufactures is in daily receipt of requests for information in regard to the inducements being made by American exploitation companies offering land for sale in Cuba. Similar inquiries having reached Consul-General James L. Rodgers, of Habana, he has prepared the following facts, which will prove informative to those concerned:

This report deals with the probable cost of shipment and the present market price of Cuban oranges in the United States. The constant demand for this information from those who are attracted by the literature being spread broadcast in the Northern States by the various land companies emphatically warrants a plain statement of the facts, in order that those who contemplate investment of money in such an enterprise in Cuba may thoroughly understand their chances of success or failure as the issue appears in the light of the conditions of the present day. It would seem from all the evidence that there is no such proper understanding, and that implicit faith is given to the prospectuses of those who are interested only in selling the land at a great advance over the purchase price and are regardless of their customer's future.

It is not the intention of this report to deal with the varied history of an orange grove in Cuba, or to go into the details of the work and investment which leads up to the production of the oranges which are to be shipped North. It will suffice to state in relation to all such matters that a 10-acre grove of good orange trees will, with the equipment, fertilization, and labor through six years, cost between $4,000 and $5,000, the first amount representing the minimum and the latter the average maximum, although of course some will cost much more.

PRESENT PRICES A FAIR BASIS.

Apparently there is no impropriety in using the orange prices of to-day in considering the general future, for only a small proportion of the Cuban orange groves are now in bearing, and the American product from California, Florida, and Texas is constantly increasing in volume.

The average New York price on Cuban oranges of good variety during the productive season runs from $1.50 to $2 (the latter figure being for carefully selected fruit) per crate of 80 pounds weight.

This is the average statement of three reputable commission men in Habana, whose names can be furnished.

The approximate cost of this crate of oranges, grown in Cuba within low freight-rate distance of Habana (the principal shipping port), may be, from tree to the consumer, as follows:

Crate	$0.18
Nails, clamps, and paper	.10
Picking, wrapping, and packing	.15
Cartage, packing-house to railroad	.02
Freight to Habana	.09
Cartage or wharfage at Habana	.02
Handling at wharf	.01
Lighterage to steamer	.03
Primage	.01
Brokerage at Habana	.01
Freight to New York	.30
United States duty (1 cent per pound less 20 per cent)	.64
Consular invoice fee proportion	.01
Clearance fee proportion	.01
Cartage in New York	.05
Commission in New York	.10
Total	1.73

These charges undoubtedly represent a conservative statement of the cost of shipping to the average orange exporter. The cost to many, and perhaps the majority, through absence of special arrangements and magnitude of shipments, will certainly be higher.

EXPENSE VARIATION—GROVE WORK NOT INCLUDED.

The only reduction from these items can come through the consular invoice fee and clearance fee proportions, which will vary with the magnitude of the shipment, but are stated here at average amounts. Again, if all labor of getting the fruit off the trees and into crates and to the shipping station is performed by the grove owner or through his facilities, then further small deductions are permissible, but to offset that it may be stated that the Cuban freight charges from many localities are double and treble those given. However, as shipments from groves quite near Habana have a freight rate as low as 3, 4, and 5 cents a crate the freight rate of 9 cents is used as the average for Habana exportations, these including shipments from the Isle of Pines.

This cost, as given in the schedule, is certainly near the average, and for groves where the labor is hired or the shipping done under contract is conservative. It represents no item of cost for cultivation, fertilization, labor, taxes, insurance, living expenses, or interest upon the investment. It is simply as stated, being the present average cost of marketing in New York 1 crate or 100 crates or more of oranges grown in Cuba. That it will cost more for other northern markets is shown by the ocean and American freight rates, which to Chicago and Pittsburg (basic points) are 59½ and 67½ cents for carload lots and 83½ and 91½ cents on less than carload lots. Even to New Orleans and Mobile the rate is 32 cents per crate.

SHIPPING DIFFICULTIES—SMALL HOME MARKET.

From this it will be seen that the grower of oranges in Cuba within the near zone of Habana will receive under the average prices given only about the cost of shipment. If it costs less than 9 cents to ship from the grove to Habana there will be a small margin sometimes; if the freight rate is more it will result in a loss. Again, if some of the shipping expense is absorbed by the labor and facilities of the grower there may be a margin, but the reverse condition being more general there is little use considering that feature. Those beyond the zone of low freight rates will suffer correspondingly, and it is hard to see how the fruit of many American growers in Cuba can be marketed at all unless there is a great increase in the price during the season when the fruit must be shipped. Private schooner lines have been talked of and special steamer rates have been promised, but even with such facilities there would appear to be little outcome unless the prices are enhanced. The promise of that is based upon the faint hope that through irrigation and heavier fertilization Cuba can produce an early and late crop of oranges.

All the foregoing concerns Cuban oranges for export. Those which are destined for consumption in Cuba do not enter into the question, for some of the groves near Habana and other large cities now have a local market at good prices and all the fruit raised is readily taken by peddlers, who pay from one-half to 1 cent each for the oranges. However, as Cuba has orange trees in quantity—they are of old planting—and as these bear well, the general local market needs comparatively little of the vast quantity of the fruit which will soon be produced by the commercial groves of the island. Therefore the owners who are now selling their oranges in Cuba are distinctly the exceptions, and that condition bids fair to be more marked in the future.

GRAPE FRUIT AND LEMONS—RECAPITULATION.

It is stated broadly that nearly 40 per cent of the trees comprising the citrus groves in Cuba are grape fruit (pomelo) and a small percentage lemon. Neither of these fruits have been under consideration, for their future appears more favorable than that of oranges. To illustrate this, early and late Cuban grape fruit and lemons in New York command high prices, and although their present prices (about $2.50 and $3.50, respectively) do not offer much, if any, profit to their growers and especially to those in remote places, there is some reason to hope for better things, provided the present costs of production and shipment continue. There is, however, but little market for these fruits in Cuba, and therefore their success in the American market is regulated largely by the supply from American sources of production. [Grape-fruit prices have greatly declined during the past few seasons, as the market is very limited, but lemon prices are better sustained, especially this year, owing to the earthquake disturbances in Sicily, where the United States has been purchasing as high as $4,900,000 worth of lemons in one year.—B. of M.]

To recapitulate as to oranges grown in Cuba, there would seem to be but little if any possibility of success in the American market as long as the expense necessitated by shipping and landing charges, by ocean and railroad freights, and by the American tariff continues. If the local market is not big enough and if the Canadian and European markets, which are now being sought, can not take all the product of the present and future, it would seem that the majority of large and small Cuban orange groves at least must languish, and those who have put their time and money into such an endeavor must consider that there has been a mistake and misrepresentation. Many are reaching that conclusion, many have realized it already, and many may come to it in time, despite their present hope of success. It is certain that in anticipation many groves are being neglected and the sale of land for such purposes is growing somewhat more difficult.

The gravity of this statement as to the financial outcome of Cuban orange production for foreign markets, and especially for those of the United States, will be understood when it is stated that the present acreage of citrus groves in Cuba is estimated at over 20,000, and that strenuous effort is being made by the land companies to dispose of their holdings. The literature being distributed is generally highly colored, containing carelessly prepared statements as to possible profits, the conditions of life, and to nearly all other matters which enter into the question. That there has been success in inducing colonization and investment is evidenced by the acreage already planted and by the inquiries of those who are seeking a supposed easy way of making a good income. These investors in orange groves are almost exclusively Americans and Canadians. No other nationalities apparently have been attracted.

It is openly stated that much of the land now planted with orange trees is entirely unsuitable for many reasons, chief among which is the depth of the soil. A great deal could be communicated as to these adverse conditions, irrespective of the cost of shipment and the market price, but the intent of this is simply to state the present final analysis so that everyone can judge for himself whether there is promise in the business.

MILK TRADE.

GERMANY.

LARGE CONCERNS PASTEURIZE MILK—BOTTLES NOT ALWAYS STERILIZED.

Consul-General A. M. Thackara, of Berlin, gives the following account of the methods of handling milk for retail purposes by the dealers in the German capital:

In Berlin the sale of milk in bottles at retail constitutes an insignificant part of the total quantity sold. The usual custom of a German family is to buy its supply in bulk in 1 liter (1.0567 quarts) or half liter quantities. The amount of milk which is put upon the market in a sterilized condition—that is, milk which has been heated up to 90° centigrade—is very small. In the establishment of C. Bolle, Alt Moabit 98 to 103, Berlin, which is a model of its kind and one of the largest in Germany, 31,700 gallons are handled daily, of which only a few hundred liters are sterilized; the rest, with but a small exception, is pasteurized by a special process. In this process the milk is not heated above 60° centigrade. The only other city in Germany where pasteurized milk is sold in large quantities is Dresden, where the dairy of Pfund Brothers places about 6,600 gallons on the market daily. The bottles used for the transportation of the milk are only in a few cases provided with paper capsules; generally the patent wire-rubber stoppers are employed.

The milk trade with the above exceptions is mostly in the hands of small dealers, who are not in the position to employ expensive machines for the sterilization and automatic filling of the bottles.

In the Bolle plant bottles are filled by means of siphon machines and the empty bottles are sterilized only for milk destined for the consumption of children at a model plant at Marienhain, near Köpenick.

Paper capsules were used by Bolle as stoppers for several years, but they have been withdrawn from the trade because some of the consumers expressed doubts as to the advisability of their use. The consumers regarded the paper stopper as not of sufficient security for the unadulterated condition of the milk. The patent rubber stoppers used are sealed and afford the public the required guarantee. [A pamphlet issued by the Bolle concern, which contains a description of the plant and the methods used in handling milk, may be consulted at the Bureau of Manufactures.]

CHINA.

SALE BEING EXTENDED AMONG PEOPLE—AMERICAN TRADE DECLINE.

Vice-Consul Willard B. Hull, of Canton, writes that there is a growing demand for canned milk in southern China and that the German and Swiss products are becoming keen rivals for the trade which was at one time almost entirely American. His trade review will therefore be of interest:

The consumption of canned milk among the Chinese is on the increase, and many of the stores now handling these prepared milks report that large quantities of the various brands are being taken by the Chinese. The Chinese have never used any great quantities of milk, as they usually allow the calf to take all the milk for its nourishment, in order to later have another animal, and fearing that the calf will die if deprived of any part of the milk. No dairy farms exist except in the various foreign settlements and colonies. In fact, among the Chinese fresh milk is practically never used, owing to its scarcity. There is every indication, however, that the Chinese are beginning to realize the value of milk as a food, and when once the use of it becomes general the manufacturers of the canned product should find a large market in this country.

The business in canned milk in China is one of considerable size. During 1906 there was imported into this country 225,559 dozen of tins of milk, valued at $248,877 United States currency, which increased to 257,300 dozens, valued at $262,575, in 1907. The importations during 1907 came principally from the following countries:

	Dozens.		Dozens.
United States	52,696	Netherlands	12,674
Hongkong	90,592	Italy	12,737
Great Britain	19,700	Japan	21,657
Germany	29,929	Canada	12,140

The bulk of the milk imported from Hongkong is American product. The importations into Canton during 1907 amount to 34,023 dozens of tins, valued at $33,398. [A list of the brands of condensed milk on the Canton market, with their prices and by whom manufactured, is filed for public reference at the Bureau of Manufactures.]

A German brand of natural condensed milk has been in the market for about two years, and finds a good sale. An Anglo-Swiss condensed milk is growing in popularity among the Chinese, and large quantities are now used by them. This brand is probably the greatest competitor the American product has. It has been in the market for several years, and by continued advertising has gained a good hold on the market. A matter worthy of note regarding this brand is that the directions, etc., are also in the Chinese language on the label pasted around the can.

In case any American manufacturer wishes to have some samples of the German or Swiss products mentioned, the same may be secured and forwarded from here.

[The exportations of condensed milk from the United States to China for the past six fiscal years shows the following serious decline:

	1903.	1904.	1905.	1906.	1907.	1908.
Chinese Empire	$35,124	$76,134	$332,245	$92,911	$101,116	$8,0344
Hongkong	23,694	41,884	128,463	28,550	12,209	379,15
Total	58,818	118,018	460,708	121,461	113,325	126,179

—B. of M.]

TEA AND COFFEE.

CHINA.

THE MANNER OF PREPARATION FOR MARKET AND SHIPMENT.

Replying to a letter from Pennsylvania inquiring about curing Chinese tea, Consul-General Charles Denby, of Shanghai, replies:

Tea is not placed on plates for drying and withering, but on protected bamboo mats, from which it is impossible for the wind to blow it. Green tea and black tea are prepared quite differently. The leaf of the green tea, immediately after picking, is partially dried in the sun or by artificial heat, and subsequently, at the pleasure of the tea man, is dried, rolled, and colored in iron pans over a slow charcoal fire. Then the leaf is sifted according to its size and shape, making such grades as Gunpowder, Young Hyson, and Hyson, as known in the foreign markets. After this process is finished it is put into packages or chests, weighing between 60 and 70 pounds, ready for export.

The color of black tea is due in no way to coloring matter, as is commonly supposed, but is caused by the withering or fermentation. Immediately after picking it is slightly withered or fermented by being placed in the sun, and the expertness of the tea man is shown in his being able to know just when to stop the withering or fermentation. After this the leaf is rolled in bamboo trays and fired in pans until thoroughly dry and ready for packing. These teas are packed in chests and half-chests for export, and in case it comes from the tea man in smaller packages, it is repacked to suit the wishes of the purchaser. Tea chests are practically all made in the same manner—of wood, lead lined, and when ready for export are wrapped with coarse Canton mats.

Both tea dust and common grades of black tea are made in the shape of bricks, weighing usually between 1½ and 2 pounds. All teas in this shape are exported to Siberia and Mongolia and in a less degree to Russia. The United States does not use tea in this form.

ARABIA.

CHAMBER OF COMMERCE AT ADEN DECLARES EXPORTS GENUINE.

Vice-Consul George M. Gordon, of Aden, in forwarding copy of a letter in regard to Mocha coffee, comments:

The honorary secretary of the Aden Chamber of Commerce, under date of December 9, addresses this consulate regarding a statement which, it is alleged, was made recently by a former United States Congressman at a public meeting at Omaha, to the effect that merchants at Aden had told him that there was no genuine Arabian coffee imported into the United States, and that the coffee they received from Arabia was Brazilian coffee shipped to Arabia and reshipped to New York. This statement the committee of the Aden Chamber of Commerce contradict. I am asked to forward the letter for publication, as unless such damaging statements are refuted the evil effect upon the coffee trade of Aden might be most serious. The letter reads:

> It has been brought to the notice of the chamber that a former United States Congressman recently made the statement at a public meeting at Omaha that merchants at Aden had told him that there was no genuine Arabian coffee imported into the United States, and that the coffee which they received from Arabia was Brazilian coffee, shipped to Arabia and reshipped to New York.
>
> I am directed by my committee to most emphatically contradict the above statement. The coffee exported from Aden all comes from the Yemen district of Arabia and the Harrar district of Abyssinia, and was formerly exported from Mocha. It now finds its way through the ports of Hodeidah and Aden. This chamber has for the past twenty-one years jealously guarded the reputation of this coffee, which forms such an important item in the trade of the port, and it is an absolute untruth, as can be conclusively proved at any time from the government records here, that any other kinds of coffee are brought here; consequently there can be no such reexportation as is alleged.

EXPORTS TO UNITED STATES.

[In the declared exports to the United States through the American consulate at Aden coffee has been a variable factor. For the fiscal year ended June 30, 1907, the amount was $471,602, against $261,104 in 1906 and $308,088 in 1905, while the total imports of coffee into the United States averages over $70,000,000 a year. The total shipments of coffee from Aden amount to about $1,500,000 a year. The total declared exports to the United States through the Aden consulate aggregated $2,967,431 in the fiscal year 1907, two-thirds of the value being skins, while ivory figured at $102,028—B. of M.]

MAURITIUS PISTACHIO INDUSTRY.

ITS EXTENSION IN ISLAND CREATES OPENING FOR MACHINERY.

Consul Samuel C. Reat, of Port Louis, renders the following account of a new industry on the island of Mauritius:

An organization has recently been perfected for planting pistachio trees and manufacturing pistachio-nut oil in Mauritius. The cultivation of the Pistacia vera tree has been limited practically to Indian growers, but the new company appears to have ample capital for extending the industry. The demand for the oil is increasing, and its superiority over importations from India and China consists in its retention of the nutritive element. It is retailed for 1 rupee (33⅓ cents) per liter (1.05 quarts) and is purchased in large quantities by Europeans as an approved substitute for lard and inferior olive oil.

This enterprise, if carried forward under the present encouragement of capital, will add to the productivity of the island and utilize lands that are now waste. Should the pistachio industry become as important commercially as its promoters hope, there will follow necessarily a demand for American machines for the extraction of oil from the nut. There are only two machines for this purpose on the island. They are French make and are declared to be very unsatisfactory.

FLOUR IN SOUTH AFRICA.

AUSTRALIA AND CANADA CONTROL THE FOREIGN TRADE.

In reply to a communication from the secretary of the Galveston Chamber of Commerce regarding the flour trade of South Africa, Consul-General Julius G. Lay, of Cape Town, furnishes the following information:

The following statement shows the imports of flour into South Africa during the years 1907 and 1906:

Imported from—	Imported in 1907 via—			Total in 1907.	Total in 1906.
	Cape Colony.	Natal.	Delagoa Bay and Beira.		
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Australia	13,959,341	36,584,521	43,745,869	94,289,731	95,887,102
Canada	12,800,295	16,459,575	9,460,130	38,720,000	26,250,439
United States	3,953,330	6,975,647	3,344,474	14,273,451	39,969,068
Argentina	2,069,878	106,600	....	2,176,473	912,572
Total	32,782,839	60,126,343	56,550,473	149,459,655	163,019,181

The foregoing statement shows the heavy falling off in the imports of American flour in 1907 from those of 1906. The figures for 1908 have not yet been published, but they are likely to show a further shrinkage in our flour trade. This is due entirely to the price and conditions of the wheat crop in Australia. As little North American flour as possible is used here, although its superiority is conceded.

The opinions of merchants here with whom I have discussed the question are that with lower prices Americans could control the market, but they doubt the ability of American flour men to land their product in South Africa cheaper than the Australian product.

One difficulty with which American flour has to contend is the limited market for first-class flours, which probably could not handle a full cargo at a time; but as oil, packing-house products, etc., find a steady market here, steamers could be filled at American ports with mixed cargoes, if they can offer cheaper freights. There is no return cargo for steamers, and those coming here from North American ports return via Bombay to secure cargoes. [Samples and prices of Australian and Canadian flours sold at Cape Town are on file in the Bureau of Manufactures.]

[The statistical returns of the United States showing the direct exports of flour to British Africa during the calendar years 1906, 1907, and 1908 are as follows: 1906, 34,256,880 pounds, worth $1,177,-

966; 1907, 12,866,224 pounds, valued at $293,602; 1908, 12,065,956 pounds, valued at $291,780. British Africa, however, includes not only British South Africa, but West and East Africa.—B. of M.]

GEORGIAN BAY GRAIN RECEIPTS.

STATISTICS SHOW LARGE INCREASE IN SHIPMENTS LAST YEAR.

According to Consul A. G. Seyfert, of Owen Sound, the annual statement of Canadian grain shipped during the year 1908 from Fort William and Port Arthur shows that from April 14 to December 12, or 242 days of navigation, 68,194,300 bushels were transported, or an increase over the previous year of 8,383,477 bushels. The consul continues:

The shipments made to Georgian Bay ports were:

To—	Wheat.	Oats.	Barley.	Total.
Owen Sound	1,106,760	2,040,909	98,970	3,244,548
Midland	1,741,727	108,122	....	1,849,849
Tiffin	7,040,513	1,224,761	174,862	8,440,136
Depot Harbor	2,196,642	364,608	63,372	2,624,624
Collingwood	1,004,181	78,453	....	1,082,628
Meaford	750,538	113,771	40,579	904,883

The amount shipped to United States ports was, wheat, 10,032,153 bushels; oats, 3,025,785 bushels; barley, 539,665 bushels; flax, 277,576 bushels. Total, 19,875,179 bushels. The remainder of the total amount shipped was unloaded at Point Edward, Goderich, Port Colborne, Thorold, Kingston, Prescott, and Montreal.

TOBACCO.

CULTURE AND TRADE.

BELGIUM.

SCHOOL FOR CIGAR MAKING IN LIEGE

The following information concerning the school for teaching the manufacture of cigars in Liege is furnished by Consul H. Abert Johnson, of that city:

Trade schools have developed in a remarkable degree in Belgium in recent years, and among the latest innovations in this line may be mentioned a school for cigar making, which was inaugurated here on July 20, 1908. This school is at present in successful operation, and the results so far obtained have been highly satisfactory. The work is under government supervision, to a certain extent, and is assisted by a government subsidy.

Courses in practical cigar making are given on Mondays, Tuesdays, Wednesdays, and Fridays from 6.15 to 8.30 a. m., and on Thursdays from 6.15 to 7.30 a. m. Besides the practical instruction in cigar making, lectures are given on one day of the week to the pupils on some current topic of the day. The number of pupils at present is 58, divided as follows: Superior class, 14 girls and 11 boys; inferior class, 19 girls and 14 boys. Fourteen of the pupils are nonresidents of this commune.

The school is placed under the direction of one of the leading manufacturers of cigars in Liege, and subordinate to him are three instructors, one for the highest class and two for the inferior classes.

Courses in technical training in the tobacco industry are included in the programme prescribed by the Government, and are given in conjunction with the practical teaching of cigar making, so that the theoretical training desirable for the expert cigar maker is taught at the same time that the practical part of the trade is being learned. For instance, the instructor in giving lessons in the manner of cutting the leaf must clearly indicate why any particular method is adopted, and explain thoroughly the different qualities of the tobacco leaf utilized in the trade. To this end the management of the school has decided to devote a certain amount of time to lectures on educational subjects, professional hygiene, etc., and, to add to the interest of such lectures, by photographic projections.

In the superior grade the pupils are exercised in producing the finished cigar. At the start the pupils of this grade made the finished cigar from fillers already prepared by the pupils of the lower grades; but, in consequence of this arrangement, the production of cigars was rather greater than had been anticipated, so that in order to counteract this tendency and prevent the school from becoming a factor in the cigar-making industry it was decided that each pupil should make the fillers he used as well as the finished cigar.

This method was also more satisfactory, in that it offered better opportunities of gaging the work of each pupil from the initiatory steps to the finished product. In order to encourage regular attendance and stimulate the zeal of the pupils, a prize of 2 cents a day was offered for each day in which the pupil regularly attended the school.

THE NETHERLANDS.

PUBLIC SALES OF TOBACCO AT AMSTERDAM AND ROTTERDAM.

Consul Henry H. Morgan furnishes the following tabular statement, showing the dates on which public sales of tobacco will take place at Amsterdam and Rotterdam, beginning with March and extending to August, 1909:

Samples shown on—	New samples shown on—	Date of sale.	Tobacco	Place of sale.
March 1, 2, 3	Mar. 4	Mar. 5	Java	Amsterdam.
March 8, 9, 10	Mar. 11	Mar. 12	Sumatra and Borneo	Do.
March 15, 16, 17	Mar. 18	Mar. 19	do	Do.
March 22, 23, 24	Mar. 25	Mar. 26	Java	Do.
March 29, 30, 31	Apr. 1	Apr. 2	Sumatra and Borneo	Do.
April 3, 5, 6	Apr. 7	Apr. 8	do	Do.
April 13, 14, 15	Apr. 16	Apr. 17	Java	Do.
April 19, 20, 21	Apr. 22	Apr. 23	do	Rotterdam.
April 26, 27, 28	Apr. 29	Apr. 30	do	Amsterdam.
May 3, 4, 5	May 6	May 7	Sumatra	Rotterdam.
May 10, 11, 12	May 13	May 14	Sumatra and Borneo	Amsterdam.
May 17, 18, 19	May 21	May 22	do	Do.
May 24, 25, 26	May 27	May 28	Java	Do.
June 7, 8, 9	June 10	June 11	Sumatra and Borneo	Do.
June 14, 15, 16	June 17	June 18	do	Do.
June 21, 22, 23	June 24	June 25	Java	Rotterdam.
June 28, 29, 30	July 1	July 2	do	Amsterdam.
July 5, 6, 7	July 8	July 9	Sumatra and Borneo	Do.
July 12, 13, 14	July 15	July 16	do	Do.
July 19, 20, 21	July 22	July 23	Java	Rotterdam.

CANADA.

PRODUCTION IN SOUTHWESTERN ONTARIO.

Consul John E. Hamilton, of Cornwall, reports the tobacco crop of the southwestern portion of the Canadian province of Ontario for 1908 as very good and predicts a still larger crop for 1909. The production for 1908 amounted to 2,393,777 pounds. The grades produced are burley plug, chewing and smoking, and binders and fillers for cigars. The price of tobacco on January 28, 1909, was 10 cents per pound. A list of growers furnished by Consul Hamilton is on file in the Bureau of Manufactures.

CUBA.

VALUE OF TOBACCO PRODUCED AND MANUFACTURED IN THE ISLAND.

The following statistics are compiled from an article in the Western Tobacco Journal:

The total value of the Cuban exports of tobacco and tobacco manufactures in 1908 is estimated as follows: Leaf tobacco, $18,354,420; cigars, $12,275,041; cigarettes, $295,884; cut leaf, $131,576; total, $31,056,921, an increase of $2,402,012 as compared with 1907. The total value of tobacco consumed for domestic purposes may be estimated at $11,264,385, and if the value of the tobacco used on the plantations and consumed through sources which are not officially recorded by the Government be added to the foregoing it will bring the actual valuation of all tobacco produced and manufactured in Cuba to at least $45,000,000.

The following statement shows the exports of tobacco and manufactures thereof to the principal countries in 1907 and 1908:

Countries.	1907.	1908.
LEAF TOBACCO.	*Pounds.*	*Pounds.*
United States	18,697,944	26,050,783
Germany	939,905	7,659,355
Spain	370,644	2,832,775
Australia	366,215	908,399
Argentina	186,014	741,662
Canada	50,343	464,891
England	28,954	165,134
France	28,314	113,900
Belgium	6,204	147,851
Chile	38,999	95,289
Uruguay	2,297	52,890
Holland	1,938	23,054
Austria	1,199	5,108
Venezuela	146,324	44,983
Mexico	12,582	7,167
All other countries	1,360,339	458,586
Total	21,238,215	39,771,818
CIGARS.	*Number.*	*Number.*
England	56,699,274	70,677,528
United States	61,869,131	47,669,742
CIGARS—continued.	*Number.*	*Number.*
Germany	23,205,411	24,183,131
France	10,638,875	11,418,782
Canada	10,271,013	7,084,020
Australia	4,261,173	6,906,042
Spain	3,119,836	5,548,895
Argentina	3,166,168	3,893,745
Chile	3,524,752	2,636,963
Austria	1,784,051	1,151,815
All other countries	7,888,923	7,676,121
Total	186,428,607	188,846,784
CIGARETTES.	*Packages.*	*Packages.*
Colombia	2,754,735	3,634,217
Panama	4,294,152	1,160,267
Mexico	1,427,412	1,061,343
Dutch West Indies	1,812,350	1,001,350
Canary Islands	883,941	583,969
All other countries	5,332,514	2,761,750
Total	16,505,104	10,202,896

Cut leaf tobacco was exported in 1908 to the amount of 353,010 pounds, as compared with 245,643 in 1907. The best market for cut is the United States, which took 80,817 in 1908, followed by French Africa, Colombia, and England.

CIENFUEGOS.

COST OF LABOR AND EQUIPMENT IN RELATION TO FINAL RETURNS.

Consul Max J. Baehr, of Cienfuegos, made investigations concerning the cost of production of tobacco in Cuba. This was difficult to procure, and his deductions, he states, come as near as possible to showing the average cost. The report follows:

Taking 1 acre of land as the basis of calculation, in the Province of Santa Clara the cost of labor in producing tobacco follows:

For the preparation of sufficient ground to produce enough young plants for 1 acre of land	$13
For their cultivation, weeding, and watering	10
For preparing the soil of 1 acre of land for the reception of the young plants	14
For the planting of the young plants	5
This figure is based on the fact that 1 man can plant 2,400 plants per day, that 1 acre takes 12,000 plants, thus necessitating employment of 5 men in order to plant this quantity in one day, at the rate of $1 per day.	
After the planting, the weeding and cultivation of 1 acre up to the cutting time comes to	50
For cutting the tobacco crop of 1 acre	30
Explained as follows: An acre of land is supposed to yield under ordinary conditions 300 cujes, or poles from which the tobacco leaf is hung, and to fill each pole costs 10 cents labor.	
Now the tobacco is ready for the drying house, and after being cured awaits the final work of selecting, heading, bundling, and baling.	
These 300 cujes should yield under ordinary conditions 6 bales of 150 pounds each; they are headed, selected, bundled, and baled at the rate of $10 per bale, or	60
Total cost of labor	182

Thus it is shown that 1 acre of land can produce 900 pounds of tobacco at the cost of $182 for labor, or 20.22 cents Spanish silver, per pound. It will also be interesting to know the total cost of production, for which purpose the following items should be added:

Labor		$182.00
1. The cujes, or poles, 300, at $4 per hundred		12.00
2. The cost of the drying house		50.00
Total		62.00
As this house and the poles are calculated to last four crops, only one-fourth of the figures can be taken into consideration, or		15.50
3. The cost of a yoke of oxen and the necessary implements for cultivation, at the rate of usefulness for four years:		
1 yoke of good oxen	$100.00	
Implements for cultivation	20.00	
Total	120.00	
One-fourth		30.00
4. Cost of seed for raising young plants		3.00
Total cost of production		230.50

OBSERVATIONS.

A Spanish silver dollar is worth 86 cents United States currency at the present rate.

The present market price for good light tobacco is $70 Spanish gold, and if it is of heavy material, or what is called "tobaco de partido," $50 per bale, so that for the sake of calculation the medium price of $60 per bale should be taken.

Time occupied in the production of tobacco from seed to bale, six months.

These figures represent the total cost of production of tobacco on 1 acre of land—900 pounds of tobacco at a cost of $230.50 Spanish silver, or 25.61 cents per pound.

CULTIVATING TOBACCO IN THE SANTA CLARA DISTRICT.

Consul Baehr, of Cienfuegos, also transmits the following information, furnished by Mr. John R. Stanley, of Manicaragua, concerning the cultivation of tobacco in the Santa Clara district:

The cultivation of tobacco in the province of Santa Clara is almost wholly done on the share system, especially on the large plantations, as it has been found impossible to do the work on the wage plan. The best results are had from the workmen giving to the owner of the plantation one-third of the crop, Under this plan the owner has to supply the men with land, living house, tobacco-curing house, tobacco poles, oxen, plows, etc., and all tools necessary for the cultivation of the plant. A certain amount of money or groceries is advanced to the workmen, which is charged up against their two-thirds share at the end of the season, or when the tobacco is sold. Two or more men work together, and each man cultivates about 4 acres of tobacco, or about 30,000 plants, which in an ordinary year should yield 3,000 pounds of tobacco. This varies according to the year, but these figures are a good average. Work commences about October 1 and continues to May 1, a period of seven months.

Using 3,000 pounds as an average crop for one man, and 12½ cents a pound as an average price, the value of the crop would be $375. Deducting the one-third for the owner of the plantation, would leave for the workman $250 for seven months' work, or nearly $36 per month. In addition to tobacco the workman may plant vegetables, and if a thrifty man can almost feed his family from the extra land he is allowed to cultivate, salt, sugar, coffee, and clothing being about all he will require from the store. During the other five months he may work in the baling house sorting the tobacco, where he may earn $1.25 to $1.50 a day, but the most of these "vegeros," as the tobacco growers are called, prefer to work around the home, planting corn, vegetables, etc., and preparing seed beds for the forthcoming tobacco crop.

The cost of a living house on these plantations, if made of grass and yagua, is about $75; a tobacco house of the same material, for curing the tobacco raised by two men, costs $300; a yoke of oxen which will prepare land for two men will come to $125; poles for drying the tobacco for two men, $75; plows and other necessary tools, about $15; land necessary for two men, at current rate, is worth about $150.

It will be seen, therefore, that the owner has expended $740 and receives $250, or about 34 per cent on his investment. The odds against this investment are that the houses are of such perishable material and the lumber used subject to tropical conditions that the depreciation in value may be estimated at 20 per cent per year, thus leaving about, say, 15 per cent as the net interest on the invested capital.

These figures are correct under normal conditions, but should the year be very dry or too wet the above shown profit might be reversed to a like amount of loss.

BEST CROP FOR POOR FARMERS.

Mr. James F. Johnson, of La Moya, writes as follows to Consul Baehr:

Notwithstanding the negative result as a money producer for the investor depending on hired help, tobacco is the best paying crop for the poor farmer with a large family, for all the women and children over 6 years of age can help to advantage with the crop, for outside the actual planting and cultivating the work is light, consisting of keeping the worms and birds off the plants while they are growing, and one man with the help of two boys between 11 and 14 years will harvest double the tobacco that he could if working alone. Child labor is not on the market here and is only utilized by the parents under their supervision.

VENEZUELA.

ABOLITION OF THE CIGARETTE MONOPOLY.

Consular Agent John Brewer, of Caracas, in charge of the archives of the American legation, reports that the cigarette monopoly in Venezuela has been abolished by executive decree, and that it was unofficially reported that prior to the issuance of the decree the Government had purchased all the property and rights of the national cigarette factory, which had controlled this industry. This decree is far-reaching in its effects, permitting, as it will, the opening of many small factories throughout the Republic and the manufacture of cigarettes by private individuals.

PARAGUAY.

TOBACCO ONE OF THE CHIEF AGRICULTURAL PRODUCTS OF THE REPUBLIC.

Consul Edward J. Norton, of Asuncion, furnishes the following information concerning the tobacco industry of Paraguay and the efforts being made for the improvement of the quality of the product:

Tobacco is the chief agricultural product, in fact, almost the only agricultural product (fruits excepted) exported from Paraguay at present. As tobacco is one of the important crops of the country, in spite of the inferior quality of leaf grown, it is also one of the few soil products of Paraguay for which apparently there is a future. There are no reliable statistics as to the quantity of tobacco produced, but a conservative estimate would place the quantity at 6,000,000 pounds per year, of which one-half is exported, the remainder being consumed in the country.

Paraguayan tobacco is graded into seven classes, the small, fine, mild leaf called "pito" being largely exported to Europe, while the "para," a coarse, strong grade is in demand for local consumption and for shipment to Argentina and Uruguay. The intermediate grades are consumed locally.

There is nothing like a large tobacco plantation in Paraguay. The leaf is grown on small scattered patches of land, and much of the cultivation it gets is the work of women and children. The tendency among the growers is to produce quantity, giving no thought to the quality of the leaf.

EFFORTS FOR THE IMPROVEMENT OF THE PRODUCT.

In order to improve the quality of the tobacco and secure better prices in Europe, the Agricultural Bank, a government institution, has been for some time distributing selected seed among the planters. For the purpose of instructing the growers in the proper methods of curing, and also to relieve the small planter of expense, the bank has constructed drying sheds in several districts.

Many difficulties have had to be overcome, but some improvement in the quality of the tobacco is noted, although growers are slow to appreciate the value of the finer and milder leaf.

As the planters have been for many years entirely dependent upon local commission and exporting houses for the sale of their product, the Agricultural Bank was authorized in April last to purchase tobacco in open market at published fixed prices. The prices paid by the bank range from ₱12 to ₱26 per 25 pounds of tobacco. As the rate of exchange has steadily risen, the grower receives to-day about the equivalent of 80 cents gold for 25 pounds of the "pito," which goes to Europe, and about $1.73 cents gold per 25 pounds of the strong, heavy grade. At 3 cents gold per pound for the lowest grade, which constitutes over one-third of the entire crop, it will be seen that the planter does not make much money out of his tobacco.

FOREIGN DEMAND FOR PARAGUAYAN TOBACCO.

The foreign demand for Paraguayan tobacco is confined to a few markets and the leaf brings a very low price, consequently the industry is showing but little development. The tobacco contains a high percentage of nicotine, due in a measure to improper cultivation and to careless methods in curing, and for this reason the lightest leaf, and the cheapest in the local market, the "pito," is the only grade that finds a market in Europe. Both in the Argentine and Uruguayan markets the tobacco from Paraguay finds strong competition in the Brazilian product, but the low prices of the former insures a steady movement of a certain portion of the crop.

In 1905, 1906, and 1907 Paraguay shipped 1,535,733 and 727 metric tons, respectively, to Bremen. During the past sixteen years prices have averaged between 5½ and 7½ cents gold per 1.1 pounds in that market. Since 1904 the shipments to Bremen have fallen off, partly due to crop failures caused by drought and the ravages of locusts, and in 1907 only 7,084 bales of 22 pounds each were sent thither, the leaf selling at 7½ to 8½ cents gold per 1.1 pounds. The Paraguayan consul-general at Bremen reports that a considerable quantity of Paraguayan tobacco is reexported from that port, some of this coming back to Argentina.

A few years ago efforts were made to develop markets for Paraguayan tobacco in France and Italy. One order at least was placed by the French Government, but the leaf has not found much favor with French smokers. In 1906-7 Paraguay exported 308,000 pounds of tobacco to Italy, and an average price of $6.78 per hundred was realized.

Paraguayan cigars are gaining a foothold in Buenos Aires and Montevideo, as high prices are charged in those cities for Brazilian and Habana cigars. A trial order for native cigars has just been shipped to Chile, and efforts are now being made to develop this branch of industry.

LOCAL CONSUMPTION—OPPORTUNITY FOR AMERICAN CAPITAL.

An enormous quantity of tobacco is consumed locally. In Paraguay everybody smokes. The manufacture of cigars and cigarettes is nevertheless carried on in rather limited fashion, there being but one cigar factory whose product is of good quality and attractively packed. Cigars made of the native leaf are extremely cheap. The cigarettes are of inferior quality and poorly made, so that cigarettes from Argentina and Uruguay are imported to meet the demand of a certain class of smokers. Several brands of English cigarettes are imported, but the demand for these, as well as for Turkish, Russian, and Egyptian cigarettes, is very limited. Some pipe tobacco is imported, but the sales are insignificant.

There is an excellent opportunity here for American capital in developing the manufacture of tobacco for export and for home consumption. Lack of capital and of modern business methods are now holding back an industry, which, under proper conditions, is capable of great expansion.

The duties on tobacco, cigars, and cigarettes imported into Paraguay are very heavy, the tariff showing an average duty of 55 per cent ad valorem.

NORTH BORNEO.

EUROPEANS RECLAIMING THE JUNGLE LANDS WITH COOLIE LABOR.

Consul Orlando H. Baker, of Sandakan, writes that the soil and climate of North Borneo are especially suited to produce tobacco of the best quality, but to insure good results great care and skill must be exercised in planting, cultivating, and curing. He continues as follows:

There are only 10 estates, employing about 4,000 Chinese coolies, in the whole of north Borneo devoted to tobacco. The cultivation began about the year 1888, at which time the export was 1,400 bales, of 177 pounds each. In 1906, 18,281 bales were exported and 16,074 bales in 1907, a decrease of 2,207 bales, partly caused by the unfavorable season. The natives and Chinese marketed nearly double as much in 1907 as in 1906, showing that the decrease in estate production must have had other causes than bad weather.

The lands of the tobacco estates were originally dense woods, or what is known as "jungles," being so dense in underbrush as to be almost impenetrable. Before the land can be cultivated trees and brush must be cut, roots dug out, and all burned. The ashes thus obtained go to make a soil suitable for tobacco growing.

So exhausting is tobacco to the soil that after one crop has been gathered from a field it is of no further use until after a rest of seven years. It is seen, therefore, that clearing the jungle for new ground is a never-ending labor on a tobacco estate. [This should provide an opening for the introduction of American stump and tree pullers.—B. of M.]

It is the practice not to plant this land with any other crops, but to let it lie fallow for seven years, after which it may again be used for tobacco. While digging up the roots the whole field is dug over and prepared for planting. While this turning over of soil is going on a force of coolies is set to preparing beds 3 feet broad and 18 feet long and planting them with tobacco seed. These beds must be carefully watered twice a day and shaded from the scorching sun. After six or seven weeks the plants are up and ready to be transplanted. Rows are made from one side of the field to the other about 3 feet apart. In these rows, 18 inches apart, the young seedlings are set out, and every one is shaded from the fierce rays of the sun by a small plank. This shading must continue till the plant is well rooted in its new home. In about ten days the plank is taken away and the earth is heaped up on each side of the stalk, making a ridge about 6 inches high.

If any of the plants seem to be weak, stronger ones displace them. The growth now depends upon the amount of rain; the plants develop best under moderate and frequent showers. After eight or nine weeks of hot, rainy weather the stalks have reached maturity.

HARVESTING, CURING, AND PACKING CROP FOR MARKET.

To insure perfect leaves, grubs or worms must be kept away and the stalks well pruned of suckers. When the stalks have come to maturity, they are about 6 feet high. The flower is pulled off and the lower leaves stripped, strung upon threads in bunches of 50 leaves, and hung in a shed to dry. After three or four weeks these bunches are piled at the fermenting shed in heaps measuring about 6 feet broad, 10 feet long, and 3 feet high, containing 1,000 pounds. After fermentation has begun the bundles are joined together in twos; then these are again combined. This is done to secure uniform heat and fermentation. The fermentation continues until the mass records 140° or 147° F.

After the stalk has been topped of its flower it takes the upper leaves about two weeks to mature. Then the stalk, with its leaves on, is cut and hung up in the drying shed. When sufficiently dry, the leaves are stripped from the stalk and bundled and treated as above described and the stalks thrown away. After due fermentation the bundles are opened and sorted leaf by leaf by the most experienced coolies, under the eyes of the manager and trained assistants. First, the leaves are sorted according to quality, indicated by the color, as fair, brown, dark spotted, or perfect; in all, about 20 shades of color. After this the leaves are sorted according to length. First, from 12 inches and over; second, from 9 to 12 inches; third, from 6 to 9 inches; fourth, all under 6 inches.

After the leaves have been sorted, bundles of 25 leaves are made and taken to the receiving room, where they are again inspected by the most expert coolies to be found, under the supervision of a European expert. If any are found to be badly sorted, the bundle is returned to the coolie who sorted it for correction. All the accepted bundles are then packed by pressure into bales of 177 pounds each and marked ready for shipping.

FOREST PRODUCTS.

CONSERVATION OF TIMBER.

CANADA.

FUR FARMS ADVOCATED TO PRESERVE LUMBER LANDS.

Consul H. D. Van Sant, of Kingston, reports that leading advocates of the conservation of forests in Canada are favoring the establishment of fur farms as a means of utilizing the large tracts of timber lands in the north. The consul continues:

As game preserves, it is claimed that the northern regions and forests of Canada furnish the finest fur-bearing animals in the world, the greater portion of these pelts going to American and Canadian cities. In a commercial sense the millions of dollars that have been derived from this source of Canadian wealth is likely to be curtailed unless some preventive is found for the constantly increasing wanton destruction of the forests and the many fur-bearing animals protected therein.

In 1905 the value of dressed and undressed furs exported from Canada was $2,380,583, while the total value exported for the five years from 1901 to 1905 was $10,369,748. The total value of lumber exported in 1905 was $27,939,973. These figures show to what immense proportions these productions have arrived and how necessary is their preservation.

It is claimed that if properly protected the forests will be more prolific than at present in fur-bearing animals, and after a brief period of animal protection or restraint the revenue from these sources will be considerably increased. The protection of the forests means the increase or preservation of the fur trade. Great fur farms could be set aside as reservations, where the indiscriminate slaughter of animals could be in a measure prevented, and if these farms were opened alternately after a period of rest or restriction, the question of fur supply would take care of itself.

In this district the land has been denuded of timber to a great extent and the fur trade has suffered accordingly. In 1908 the value of fur skins exported from Kingston amounted to $2,737, while in 1907 the value was $4,571, a decrease of nearly one-half. At this rate the exportation will entirely cease within a few years.

BRITISH INDIA.

PRESERVATION OF BENGAL FORESTS.

Consul-General William H. Michael, of Calcutta, sends the following review of the movement to conserve the timber resources of India:

The destruction of forests and their protection and preservation is a subject of world-wide interest. The forest department of Bengal recently published in the Calcutta Gazette an interesting paper on the management and preservation of Indian forests which is rather unique and interesting. The following résumé of the report gives a fair idea of it, and will show that the British India government is fully aware of the importance of the subject. The report says that the important effects of the conservation of forests on climatic conditions are now generally accepted. The relations between forest denudation and atmospheric and subsoil moisture and the possible ulterior effects of changed conditions in producing sudden floods and severe droughts more and more urgently call for consideration.

There is increasing reason to connect the high floods in the rivers which rise in the Chota Nagpur plateau with the denudation of the hills of that country and of Orissa. The whole question is receiving the careful attention of the government. The recent agitation against the denudation of forests in the Darjeeling and surrounding districts will in the future receive more consideration, and the tea planters of Darjeeling may now expect that their labors in saving the forests will be backed up by government.

DESTRUCTION BY FIRE.

Fire protection is one of the most difficult problems with which the forest department has to deal, for the reason that there are so many factors which have to be taken into consideration. The year 1907 was the most unfavorable experienced during the past decade. The early cessation of the rains and the absence of spring showers rendered the work of fire protection exceptionally difficult. The Singhbhum division suffered most, nearly 45,000 acres, or 9.5 per cent of the total area under protection, being burnt. There is reason to suppose that some of the fires in Singhbhum were of incendiary origin, but in no case was any proof of incendiarism obtained. Hill tribes subsist for a large part of every year, and especially in years of scarcity, on the roots and fruits, seeds, and honey which the forests supply. It is easy to appreciate the difficulties which the work of fire protection under such circumstances involves. Considering the character of the season, the lieutenant-governor is of opinion that the forest department is to be congratulated on the comparative smallness of the area actually burnt. This was a little short of 60,000 acres, whereas in 1898—the only season in recent years which was equally unfavorable—the area burnt in the Singhbhum division alone amounted to nearly 280,000 acres.

DESTRUCTION BY ELEPHANTS.

Only forest officers realize the extent of damage caused to forests by wild animals, especially wild elephants. These huge beasts did a great deal of damage in the Teesta division. Most of the transplants put down in that division were destroyed by these animals; and the report says: "It is possible, as the conservator suggests, that the elephants are not worth the protection they receive from the government. The conservator should further consider this question and, if necessary, address the government upon it." If the protection is removed, shikaris (hunters) will soon rid the Teesta forests of its elephant pests. In the Sunderbans forests man-eating tigers were responsible for 120 lives and an indirect revenue which the conservator roughly estimates at over $8,000. The usual rewards are offered for the destruction of tigers. The provincial service is now under the consideration of the government. The reorganization of the subordinate staff was sanctioned in the beginning of the year, which will lead to a continued improvement in the standard of work. The school for foresters and deputy rangers at Kurseong, which was started in 1907, has been a distinct success. The net revenue realized in 1907 was $152,130, which is, however, less by $10,000 than that of the previous year.

PRODUCTS OF EUCALYPTUS.

VALUABLE LEAVES FROM FOREST TREES OF AUSTRALIA.

Consul Henry D. Baker, of Hobart, treats in the following thorough report the extensive use to which the leaves of the eucalyptus tree are put in Tasmania:

I recently paid a visit to Port Esperance, about 50 miles journey by water southwest of Hobart, for the special purpose of observing an interesting use to which eucalyptus leaves are being put in the preparation of an extract for the prevention of corrosion and encrustation of boilers. The plant at Port Esperance is said to be the only one of its kind in the world. It is owned by a company in Liverpool, England, and its product, I understand, is sold at profitable prices to leading steamship companies engaged in trans-Atlantic and Mediterranean service.

There are many plants in the Commonwealth of Australia where eucalyptus oil is distilled for medicinal purposes, and there is said to be a plant in New South Wales where acetic acid is an important by-product in the distillation of the oil; but at the Port Esperance plant the eucalyptus oil itself is considered merely a by-product in the preparation of the more valuable extract for use in preventing deterioration of boilers.

ACTION OF EXTRACT—HANDLING THE LEAVES.

This extract has the appearance and consistency of tar when prepared for export to England. It is shipped with no more liquid in it than is necessary to prevent caking in the casks en route, it being thinned, however, with the addition of water on its arrival at Liverpool. The extract is said to diffuse itself through the water of boilers and cleanse them of any acid, greasy or saline matter, forming with such deleterious ingredients a harmless sediment which sinks to the bottom, and it prevents any formation of crust around the water line.

Four tons of eucalyptus leaves will produce about 1 ton of the extract for boilers, and about 70 to 80 pounds of eucalyptus oil. This plant is located in the vicinity of extensive forests of the blue gum (eucalyptus) [which are also grown to some extent in Florida and California.—B. of M.] Twigs of the leaves are taken off the trees irrespective of the age or height of the tree, except that too old trees are not preferred owing to the great preponderance of woody matter. They are placed in large bags and, by an iron hook arrangement, are slid down the hillsides along telegraph wire especially strung for their easy transportation to the mill. The leaves are for the most part about 10 inches long and from 1 inch to 1½ inches wide. The leaves most used at this plant are taken from an underbrush of trees in "bush" destroyed by fire about two years ago. The same trees may be considered good for another crop of satisfactory leaves in about three years after the first leaves have gone to the mill. The leaves are poured into a large cauldron, called a digester, and steam is applied for four hours. During this steaming the acetic acid in the leaves passes off into vapor, the eucalyptus oil is carried out by the steam to the condenser, the waste water being then separated by use of a syphon.

EXTRACTING THE OIL—ITS MEDICINAL USE.

The residuum in the digester is then subjected to steam pressure, by means of which the valuable extract is obtained, being first, however, boiled down to the consistency of tar. The woody matter, which is left in the digester after the oil and extract have been taken out, is then removed and burned as refuse. It is curious that the acetic acid and the boiler extract, both obtained from the eucalyptus leaves, are exactly opposite in their effect on iron, the former destroying and the latter preserving it. In order to prevent the digesters being eaten by the action of the acetic acid in the leaves, they are painted with the extract before the leaves are put in and the steam applied.

Some experiments have recently been made at Port Esperance to ascertain if varieties of eucalyptus leaves, other than the blue gums, could be used for the production of both boiler extract and eucalyptus oil, and as a result it appears that practically every variety of eucalyptus leaf will furnish the boiler extract, but that the best quality of eucalyptus oil by-product is obtained from the blue gum. The stringy bark (*Eucalyptus obliqua*) contains more of the extract, but less of the oil than the blue gum.

The local consumption of eucalyptus oil for medicinal purposes is quite large. It is a favored remedy for colds, rheumatism, asthma and other bronchial affections, skin diseases, toothache, burns, bruises, etc. It is frequently sprinkled over bedroom floors to drive away flies and mosquitoes. It is perhaps most commonly used with sugar, often in the form of lozenges. It is occasionally taken in overdoses, and I have heard of several deaths from this cause in Tasmania quite recently. The exportation of the oil appears small compared with the local use. The value of the exports for last year from Tasmania was only $4,560.

A LOCAL VIEW OF OIL TRADE—OTHER USES OF TREE.

In a recent article in the British Australasian I note the following:

> An opportunity for Australia seems to present itself in the eucalyptus oil trade, if only a little more energy is extended in pushing it. The supply, of course, is almost unlimited, and the demand may be much extended, even though the season now closing has been rather a disappointing one. The weather, on which so much depends for the trade, has been of the right sort, but despite the ravages of influenza the oil has been slow of sale, and an exceptional quantity remains in dealers' hands. But there is a sale for eucalyptus oil all through the year. One or two points for shippers in Australia are worthy of mention. Owing to the use of inferior tins, in which oil is sometimes sent forward, rust is set up, and the oil has to be "treated" on reaching London in order to get rid of this fault. The best way is to put the oil in cases to hold two cans containing 25 pounds of oil each. The home trade does not care for the use of drums in any shape; it is noticeable that the oil which remains unsold the longest is usually packed in drums.

There are some other uses to which it is said eucalyptus can be put, although there has as yet been no practical demonstration of such uses in Tasmania. An illuminant known as "gum gas" can be produced from the leaves and is said to give a bright light. A local authority has estimated that 10,000 feet of gas can be obtained from a ton of leaves. The eucalyptus bark is said to contain a fiber suitable for paper; also tanning. Eucalyptus flowers are said to contain a nectar especially good for bee food, though the flavor of honey from the eucalyptus is somewhat peculiar and might not please every taste. Eucalyptus woods are considered very valuable for railway sleepers and for piles. Some of this wood was exported to England for the Dover harbor works about ten years ago, and is said to be in excellent condition still. A pamphlet is forwarded on the "Eucalypti Hardwood Timbers of Tasmania," issued by Gray Brothers, a timber firm of Hobart [which, when received, may be seen at the Bureau of Manufactures].

PENCIL TRADE OF JAPAN.

EUROPEAN SALES INCREASING—AMERICAN TRADE DECREASING.

Vice-Consul-General E. G. Babbitt, of Yokohama, supplies the following statistics concerning the pencil manufacture and trade of Japan:

The manufacture of pencils in Japan is but in its infancy, the Tokyo factory employing less than 100 workmen and producing only from 5,000 to 6,000 gross of pencils monthly, at $1, 90 cents, 50 cents, and 25 cents per gross.

The cedar employed is not grown in Japan, as the Japanese wood has not been found suitable. Imports of cedar and graphite have been largely from the United Kingdom and Germany. The prices paid for these commodities it has not been possible to ascertain, but it would certainly seem that American producers should be able to compete in this market, and the pencil manufacturing company mentioned will be glad to purchase of American dealers if prices and terms are advantageous. [Address of company on file in the Bureau of Manufactures.]

The United States supplied 4,427 pounds of graphite, valued at $415, to Japan in 1907, while 83,833 pounds, valued at $5,995, were imported from the United Kingdom. The import of cedar has not been of sufficient importance to warrant separate mention in the customs returns, and it is impossible to state just what quantities Japan secures from Germany and elsewhere.

IMPORTS OF PENCILS.

The imports of pencils have greatly increased in the past fifteen years. The imports for the past three years were as follows:

Whence imported.	1905.		1906.		1907.	
	Gross.	Value.	Gross.	Value.	Gross.	Value.
Germany	182,240	$115,944	243,703	$181,580	225,171	$197,465
United States	41,438	26,968	89,519	54,129	27,546	18,698
Great Britain	15,104	16,628	8,116	10,994	15,487	18,998
Other countries	1,012	1,171	275	806	800	515
Total	239,794	160,711	341,613	247,509	269,004	235,671

The year 1907 shows a very considerable decrease in the imports from the United States. Detailed imports are not available for

1908, but for the first nine months 251,686 gross of pencils were received from abroad, having a value of $232,649.

If the decrease of imports from the United States is due to the manufacture of cheap grades of pencil in Japan, the American manufacturer should endeavor to compete with Great Britain and France in the better grades and in the raw materials, cedar and graphite. The import tariff is as follows:

Pencils cased in wood, 50 sen (25 cents) per gross; pencils, all other, 30 per cent ad valorem. Pencils which can be classed as jewelry, silver and gold cases, etc., are subject to 60 per cent duty. Graphite is free of duty. Cedar board, 60 sen (30 cents) per 100 superficial feet; cedar, round, squared, or sided, 4.56 yen ($2.28) per 100 cubic feet.

SPANISH CORK EXPORTS.

STATISTICS OF SHIPMENTS—PURCHASES BY UNITED STATES.

Consul-General Frank D. Hill, of Barcelona, sends the following statistics showing the amount and destination of exports of cork from Spain during the years 1905, 1906, and 1907:

	1905.	1906.	1907.
Cork in slabs	$458,116	$322,091	$375,867
Cork in squares	137,003	113,448	149,359
Cut corks	5,967,259	6,920,914	7,920,858
Cork dust	268,188	252,648	303,748
Cork articles	5,058	17,399	55,782
Total	6,835,624	7,626,494	8,805,614

The following are figures in detail for 1907:

	Tons.	Values.		Thousands.	Value.
Cork in slabs to—			Cork in squares to—		
United States	2,708	$196,630	United States	6,000	$11,418
France	878	63,808	France	41,425	78,659
Gibraltar	672	48,869	Italy	13,573	25,829
Denmark	646	46,918	Argentina	8,464	16,114
Great Britain	218	15,853	Austria	9,033	17,190
Russia	168	12,199	Uruguay	3,440	6,546
Belgium	35	2,521	Portugal	2,680	5,100
Italy	33	2,394	Germany	558	1,062
Germany	9	651			
Argentina	8	579			

[The total importations of cork and manufactures of into the United States amounts to about $4,000,000 annually, one-half of which (the bark) is free of duty, while the other half consists chiefly of corks; the bulk of importation of the latter is in the size over three-fourths inch diameter, which pays 15 cents per pound duty. The American statistics show yearly imports of about $500,000 worth of cork bark from Spain and over $1,000,000 worth from Portugal, while about $1,500,000 worth of manufactured cork comes from Spain. In this latter line Spain's sales to the United States have increased about 300 per cent in the past five years.—B. of M.]

INDUSTRY AND LABOR.

FOREIGN ELECTRICAL PLANTS.

GERMANY.

PROFITS OF PLANTS OWNED BY THE CITIES—CHARGES TO CONSUMERS.

Consul Thomas H. Norton, of Chemnitz, furnishes the following review of the operations of municipally owned electric plants in Germany, and the main factors entering into their conduct:

Germany is making experiments in so many directions in connection with the municipalization of public utilities that the results of her experience are becoming more and more valuable for other countries. Of especial interest at present is the outcome of the widespread management by cities of generating plants for electricity, supplying current for both power and illumination.

The following table shows the net annual profit or loss of such plants in 32 cities owning and managing the entire equipment. All of these cities have populations in excess of 50,000. The figures given are for 1905, and represent the surplus, or deficit, remaining after payment of interest and deduction of the customary amounts for sinking funds and depreciation.

City.	Annual surplus.	City.	Annual surplus.
Aachen	$54,000	Elberfeld	$10,000
Altona	90,000	Erfurt	2,000
Barmen	21,420	Frankfort	320,800
Bochum	46,000	Freiburg	5,000
Bremen	92,000	Gelsenkirchen	3,000
Breslau	78,000	Hanover	20,000
Kassel	31,000	Kiel	20,000
Chemnitz	82,000	Muhlhausen	17,000
Koln	82,000	Munchen	47,000
Krefeld	22,000	Nurnberg	58,000
Darmstadt	13,000	Potsdam	11,000
Dresden	77,000	Stuttgart	89,000
Dusseldorf	91,000	Wiesbaden	17,000

City.	Annual deficit.	City.	Annual deficit.
Dortmund	$62,000	Konigsberg	$5,000
Gorlitz	238	Plauen	238
Halle	21,420	Posen	4,522

It is noticeable that in but few cases are surpluses of any considerable amount entered upon the balance sheets. Even in such cases experts express doubts as to whether the sinking and depreciation funds are fully adequate from a business standpoint.

COMPARISON WITH GAS PLANTS—FUTURE PROSPECTS.

In general, it may be stated that electrical plants are far less remunerative than gas works. Thus, in Chemnitz the receipts of the city gas works in 1907 were, in round numbers, $860,000; interest and redemption of bonds absorbed, $94,000; depreciation, $81,000; $180,000 was contributed for special municipal needs (apparently to offset earlier advances), and a net profit of $60,000 was recorded. In the same year the electrical works received $305,000 (60 per cent for illumination, 40 per cent for power). The expenditures included $40,000 for interest and $74,000 for depreciation, but nothing for sinking fund. The profits are placed at $56,000.

From the reports issued by the various electrical works it is evident that there is a wide divergence in the cost of producing the current in different sections. Engineers who have made a careful study of the question regard it as probable that the tendency will be even more strongly marked in the future to so diminish the rates for the electric current that—at least for use as a motive power—they will not be much in excess of cost of production. This policy becomes increasingly necessary, as it is established that gas motors are far more economical than dynamos. The hourly cost per horsepower for running a gas engine ranges in Germany from 1.7 to 2 cents, while the corresponding cost for an electric motor is 3.15 cents.

JAPAN.

RAPID GROWTH OF ELECTRICAL BUSINESS.

The wonderful development of electric railways in Japan in the past twelve years and the growing demand for electrical supplies is reviewed by Consul John H. Snodgrass:

One of the phenomenal features of Japan's commercial upbuilding during the past decade has been the growth of its electric tramways throughout the Empire. The first electric tramway established in this country was a line 8 miles in length, opened at Kioto in 1895, when a national industrial exhibition was held in that city. In the thirteen years following every city of any importance has in succession constructed electric tramways as convenient methods of communication for short distances, so that there now exists 16 electric tramway companies, with an aggregate capital of $38,912,336, whose lines already opened total 165 miles, with about 100 miles more under construction. In addition to these, there are 15 companies which are not yet in working order, with an aggregate capital of $15,062,500.

In 1896 there were only 3 companies organized, with a capital of $692,500, and a reserve fund of $18,099, operating less than 20 miles altogether; that year the earnings amounted to $267,779, and a dividend of $119,705, or about 21 per cent, was paid, 23,890,489 passengers being carried.

EXTENSION OF OPERATIONS.

In 1907 the 16 companies had a reserve fund of $496,865, and the receipts had reached the enormous aggregate of $3,828,887, from which a dividend of $1,738,762, or about 7 per cent, was paid, the passenger list for that year amounting to 182,389,707 persons. Though the business has greatly increased, there has been a gradual decrease in dividends, due, it is said, to large flotations of stock.

The growing demand for electric lights in the centers of population has resulted in the organization of numerous electric-light companies, which increased from 41 in 1897 to 76 in 1906, with an authorized capital of $14,219,926. The length of lines in 1897 were 672 miles, with 2,427 miles of wire; there were 29,701 houses fitted with electric lights at that time, with 140,583 electric lights supplied and 2,335 street lights in existence. Ten years later 76 companies were operating, with an authorized capital of $14,219,926; the length of lines increased to 2,150 and wires to 7,408 miles; 141,058 houses were fitted with electric lights, 678,511 lights being supplied, and the total number of street lights aggregating 12,556. These companies were earning $3,518,876, with a dividend of $1,041,689.

In 1905 there were imported into the Empire electric-light apparatus and instruments valued at $316,328; this dropped to $247,785 in 1906. Of the former year's trade the United States secured $232,251 and in 1906, $170,203. In electric motors there was a far greater business, the trade in 1905 amounting to $1,227,712, of which the United States secured $929,874. In the following year there was a big slump, the total trade amounting to $704,158, of which $430,964 was credited to the United States.

IMPORTS THROUGH KOBE.

Through the port of Kobe in 1906 the United States sold electric dynamos and motors to the value of $176,915. That dropped, however, in 1907 to $73,491, but there was a stimulation in the exportation of electrical machinery from $64,100 in 1906 to $137,943. The United Kingdom increased its trade from $72,934 in 1906 to $84,500 in 1907.

For the first ten months of 1908 there were imported through this harbor dynamos and motors valued at $147,393 and electrical machinery worth $346,506. Out of the total amount of machinery purchased the United States secured orders worth $176,093, and in dynamos and motors over one-third of the trade, or $56,972. Great Britain was next on the list, disposing of machinery valued at $27,936 and dynamos and motors worth $43,682.

The United States has taken the lead from the start in the sale of all kinds of electrical supplies in Japan, of which there can be no doubt of its ability to maintain, though in the course of time Japan will certainly make strenuous efforts, as in any other form of manufacturing, to produce its own electrical machinery.

EXPANDING PURCHASING MARKET.

There is a growing field for American energy in electrical supplies throughout this district, particularly where are centered the chief commercial cities of the Empire, which will be linked together in a complete network of electric tramways in the course of a few years. Indeed electric car lines are now running parallel with regular railways, and it is stated on reliable authority that the Government is contemplating a dual system of tramways and railways for a number of sections.

The import duty on electric and other tramway cars, and parts thereof, is 20 per cent; on electric locomotives, wheels, and axles, $2.35 per 132 pounds; on incandescent lamps, not exceeding 32 candle-power, $2.90 for every 132 pounds; all others, $5.10 for every 132 pounds; for insulated electric wire or cable, 20 per cent ad valorem.

[The principal dealers in electrical supplies in Kobe, Osaka, Nagasaki, and Yokohama are listed for public reference at the Bureau of Manufactures.]

INDUSTRIAL CONDITIONS.

BRAZIL.

SMALL FACTORIES WITH MOTOR POWER SPRINGING UP IN CITIES.

Writing from Rio de Janeiro, Consul-General George E. Anderson says that the development of great industries in many lines in Brazil is likely to be always a matter of more or less difficulty, owing to a lack of some of the elements of successful manufacturing. He portrays the measure of progress being made:

The lack of native fuel has long been the most considerable drawback to Brazilian manufactures, and of late years the lack of satisfactory labor at reasonable prices compared with the rest of the world has been felt. The lack of cheap and efficient transportation also is a very material element in the situation. In the past two years, however, there has been a notable development of industries in the larger cities for the manufacture of many articles of ordinary consumption which were formerly imported—articles like cheap ready-made clothing, shirts, collars, dresses, hats, and the like; foods like biscuits, jams, preserves, and other tinned goods; small agricultural machinery, furniture, tin and similar ware; in short, all the common industries for the production of goods of common and local consumption. These industries have seldom attempted to do more than meet the demands of the local market in their line, and their total capitalization and output do not make a very great showing in the country's trade returns. In their employment of labor, their keeping money in Brazil which formerly went abroad, and in their political and general economic effect, however, they are of considerable importance and will have to be reckoned with in future trade in Brazil.

AID GIVEN BY HYDRO-ELECTRIC POWER.

As indicating the extent of the development of such industries in Rio de Janeiro, for example, the manager of a local electric power company states that in the last eighteen months his company has made contracts for power aggregating about 1,080 horsepower with concerns of the sort mentioned taking from 10 to 20 horsepower each, in all about 80 of these small manufacturing establishments which now exist and which did not exist eighteen months ago. This change has been brought about and made possible by the introduction of electric power for general use, power which was not to be had up to about a year ago and which was known in the city only by its use in a few great establishments having their own electric plants. So long as it was necessary to establish and maintain steam plants, with skilled labor expensive and the price of fuel very high, since all of it used here is imported, small power plants were not common.

The introduction of small gasoline and other internal combustion motors has not been general, both because of a lack of proper presentation here and the high price and variable supply of gasoline. The availability of power for all establishments, small and great, changes the whole order of things. The introduction of the electric power system in São Paulo, now enjoyed by that thriving city, was followed by the development of many small industries like that now in course in Rio de Janeiro, and Bahia is commencing to go through the same process. The experience of these cities in a general way indicates what the development of hydro-electric power in Brazil really means. Such power is to be had in many places in the country, and it is the only power to be had.

INCREASED DEMAND FOR MACHINERY.

The introduction of power and the development of these small industries have led to more or less demand for machinery, which is being met by agents on the ground. Both in the line of electric machinery and industrial machinery the United States is securing its share, though the imports of all machinery, as well as imports in general, show a decrease in 1908 over the same period of 1907, the market having been largely supplied by stocks previously imported. The present low state of trade in such goods, however, is only temporary, and the presence of abundant power at comparatively reasonable prices will be a constant stimulus to the development of manufacturing industries and imports of machinery. This development is being energetically sought after by the Brazilian authorities, and few industries exist which are not heavily protected. All are given every possible encouragement.

NEW MEASURES FOR THE DEVELOPMENT OF THE COUNTRY'S RESOURCES.

Details of the Brazilian budget for 1909 give a number of facts of interest to American trade. In a general way the policy of the Brazilian Government in extending railway lines, building branch lines to present systems, and extending the transportation facilities of the country generally is continued. Special efforts are being made in the direction of the establishment of new lines of river transportation service; the budget, for example, extending the privilege of duty-free materials to concerns establishing such services on the rivers of the interior. Free entry of materials and machinery is granted to practically all transportation concerns building new lines, while the privilege of free entry, save for the registration or "expediente" tax, is extended to cover practically everything used in agriculture or in industries dealing with agricultural products, provided the goods are imported by agriculturalist, agricultural syndicates, or for the particular use of a named establishment. Free entry of material and machinery, in fact, is granted to all sorts of new enterprises.

ENCOURAGING THE BUILDING OF HOTELS AND WORKINGMEN'S HOMES.

It is significant, as indicating certain needs in Rio de Janeiro and other large cities of Brazil, that entry free of duty is given by this year's budget law to materials and machinery for the construction of hotels in Rio de Janeiro and other Brazilian cities of over 50,000 inhabitants, provided that the municipalities concerned shall give such hotels exemption from taxes for ten years or more. Free entry also is given to materials and supplies for the construction of model workmen's houses in the same cities under the same conditions. The Federal Government of Brazil and the government of the Federal District, including Rio de Janeiro, corresponding to the District of Columbia in the United States, have been making strenuous efforts to afford better homes for the laboring classes in this city. The government of the Federal District has gone so far as to construct model houses, according to two models, in considerable numbers, with municipal funds. The construction and renting of such houses so far has been fairly successful, apparently, but it is said that as far as possible such undertakings should be made by private capital, and the privileges offered in the budget are founded upon the hope that the proper amount of capital offered under proper conditions can thus be secured.

TUBERCULOSIS, POSTAL SERVICE, AND BOUNTIES.

Among the appropriations in the budget may be noted something over $50,000 for aid for various institutions engaged in fighting the spread of tuberculosis in Brazil. This national appropriation is supplemental to state and municipal appropriations for the same purpose, and is designed to aid particular institutions which otherwise are without necessary support. The fact that one person out of every five dying in Rio de Janeiro, a city of the best sanitary conditions, dies of tuberculosis, indicates the need of aggressive action in this line.

The post-office appropriations are increased in general by about 25 per cent over the appropriations of last year, and it is generally hoped that with this increase may be had that improvement in the Brazilian postal service which the business men of Brazil have been asking, or at least that a substantial beginning may be made.

The Government is authorized to establish a refrigerator-car system with refrigerator stations on the government railways, and it seems likely that this improvement will be commenced during the year. At present there is nothing in the way of such service in all Brazil. There is now no fast fruit service between producing centers and the larger cities and shipping points. With the establishing of such a service there will be almost a revolution in some lines of trade, especially in meats and fruits.

Bounties for certain industries are continued as heretofore, notably those for the silk industry and one for wheat raising, considered in a separate report. A bounty of 13 cents per gallon is authorized to be paid on exports of wine of Brazilian production. This bounty is likely to stimulate the exportation of wine from Rio Grande do Sul to the neighboring countries of South America.

A bounty of $30 per ton is to be paid upon vessels of more than 100 tons constructed in Brazil.

WIRELESS TELEGRAPH AND RUBBER LEGISLATION.

A commission, to be composed of representatives of the national telegraph department, the army, and the navy, is to have full charge of the establishment of a wireless telegraph system for all Brazil, not only with respect to a system for army and navy and other national purposes, but for a public service as well.

The legislation as to rubber from the Acre territory is in agreement with legislation of the State of Para and with legislation expected from the State of Amazonas. In general it provides for a discrimination of about 4 per cent minimum and 14 per cent maximum of the export tax charged by the States or by the Federal Government in the Acre territory on rubber exported by syndicates of Brazilians formed for the purpose. The rubber trade of Brazil so far has consisted of the Brazilians who have gathered the rubber from the trees to the ports of export (the seringeiros who tap the trees, the aviadores who gather it from the seringeiros, the patrãoes who have bought and delivered it to the ports) and the export houses, practically all foreign, and most of the greater ones American. The Brazilian rubber people represent that these foreign houses have been manipulating the market and that the prices paid for rubber in Brazil do not bear a proper relation to the prices received for the same rubber by the export houses abroad. They claim that if the exporting business can be held in Brazilian hands this manipulation will cease, and the States concerned, and now the Federal Government as well, have passed a law granting to Brazilian exporters lower export taxes than that collected from foreign exporters in the same market.

Stamps on bank paper is considered by the business people here important more as a precedent and in principle than otherwise. By reason of the exemption of the paper of the Bank of the Republic from stamp dues, that institution, an institution owned by stockholders who receive a profit from its operation, will save about $225,000 a year which the other banks, mostly British, German, Italian, and French, will have to pay.

It is a notable fact that this year's budget authorizes the President of Brazil to establish a system of bank inspection and to undertake the systematic examination of such institutions in the country. At present the principal banks are foreign and are generally organized under the laws of their own countries and are more or less under the supervision of the authorities of their respective countries. The publicity they give to their accounts and their business generally is such that if any bank is in a weak position the public soon knows it and the institution is perforce led to better ways by the sheer need of protecting its business. A very large portion of Brazil in general, including many good-sized cities, is without adequate banking facilities. Without proper legal supervision people have been unwilling to trust funds to small and irresponsible institutions, and without deposits banking is impossible. It is probable that a carefully drawn but fair system of bank regulation with effective inspection would led to the establishment of many small but much-needed institutions. The law simply authorizes the Government to undertake this work without fixing a date.

ITALY.

PRELIMINARY CONSTRUCTION PLANS INDICATE EXTENSIVE PURCHASING.

Consul A. H. Michelson, in the following report from Turin, calls attention to the extensive supplies which will be needed for rebuilding the Italian cities destroyed or damaged by the earthquake:

The reconstruction of the cities of Messina, Reggio, Palmi, Bagnara, etc., having been decided upon, the Italian Government will, as soon as the débris left by the earthquake shall have been cleared away, direct the engineer corps of the civil state, or a special commission composed of members of that corps, to proceed to divide the areas selected for reconstruction into building lots. These lots will be bid for by Italian and foreign contractors who may wish to undertake the construction of new buildings thereon.

Anticipating the time when the location and dimensions of the lots will be made known, the Public Works Cooperative Society of Lombardy (Società Cooperativa Lombarda di Lavori Pubblici) announces that it will hold a public competition to demonstrate the relative merits of various materials and methods of work and construction adapted for use in the devastated regions.

PLANS OF COMPETITION.

While the competition will deal especially with types and systems of construction for urban, rural, and industrial edifices least likely to be affected by seismic disturbance, the widest latitude will be given competitors regarding their exhibits. They will be at liberty to submit designs, general proposals, reports, photographs, models, samples of materials, etc. Three prizes will be given: One of 3,000 lire ($579), one of 2,000 lire ($386), and one of 1,000 lire ($193). Exhibits must be received by the College of Engineers and Architects (Collegio degli Ingegneri ed Architetti), No. 10 via S. Paolo, Milan, free of all costs, before April 1, 1909. The Public Works Cooperative Society of Lombardy reserves to itself the right of applying to its own ends, with or without modifications, any exhibits that shall receive prizes. In such cases, whether exhibits are protected by patents or copyrights or not, the society will make suitable arrangements with owners for compensation.

In addition to this competition and to others of similar character that may eventually be held, the Italian Government will probably hold a special competition for the solution of purely technical problems. This competition will, however, only take place after the Government shall have solved the grave financial and administrative problems that now demand its attention.

MATERIALS TO BE USED.

From present indications it seems likely that steel and reinforced concrete will be widely used in the work of reconstruction and that the height of buildings will be limited to 10 meters (32.81 feet). It is also probable that only the very lightest materials will be used for floors, ceilings, and roofs. American manufacturers should give this fact thorough consideration. They are believed to be in the unique position of being able to supply large quantities of material to fill a demand that can not be met by outside competition.

If possible, representatives carrying full lines of samples should be sent to the chief cities of Italy to confer with Italian contractors. Manufacturers should in any case not fail to send catalogues or samples of metal, paper and asbestos ceilings, of woods for floors, and of roofing of rubber, paper, asbestos, fiber, felt, prepared or patented materials, sheet iron and protected tin, to the competitions of the Public Works Cooperative Society of Lombardy, and to important Italian contractors [a list of which, forwarded by the consul, may be obtained from the Bureau of Manufactures].

Manufacturers should bear in mind that the mean temperature in Sicily in January is 52° F. and the mean temperature in July and August 78° F.

TURKEY.

MATCH INDUSTRY TO BE FIRST TAKEN OVER BY GOVERNMENT.

From the Near East, of London, for December, the following quotation is extracted by Consul-General G. Bie Ravndal, of Beirut:

> What is more immediate and material is that the Turkish Government proposes to establish monopolies over matches, petroleum, alcohol, playing cards,

and cigarette paper. That for matches is to be at once considered. The net income from matches derived by the State under the system of distribution hitherto in vogue was £80,000 ($388,800) per annum, while under the monopoly this will amount to £200,000 ($972,000). Many serious problems had to be solved before the concession to be granted took its present form. Settlements had first to be made with those countries from which Turkey secured her supplies—Austria-Hungary, Italy, and Sweden—and these settlements were accomplished by the proposed monopolists contracting, under heavy guaranties, to allow those countries to continue their supplies during the existence of the monopoly, some forty years, at certain prices, and in the same proportion as to quantities as had hitherto been supplied.

Each of the contracting countries, appreciating the benefits of a contract by which the supply was assured to it for a period of years, at last, after years of protracted negotiations withdrew their protests to the proposed monopoly, and from the fact the monopoly is about to be granted it may be inferred that the conditions under which England, the only other objecting nation, had agreed to withdraw its protest, have been fulfilled. Under this monopoly all parties that are interested benefit—manufacturers, consumers, concessionaires, and the State. The manufacturers are assured of a definite sale of their matches for a period of years, the consumers will actually get their matches cheaper, the concessionaires will reap an excellent profit, and the State will more than double its revenue.

To us, too, it is a particular source of satisfaction that the monopoly will be in the hands of a purely British syndicate, registered as Anglaustur, Limited, the members of whose board include the Earl of Denbigh, Lord Charles Montagu, Major Magniac, and Mr. Ingham Whitaker. It may be mentioned that the £200,000 ($972,000) annually assured to the State is being earmarked as interest on a loan of £4,000,000 ($19,440,000) which Turkey intends to raise on the strength of it. The other monopoly now under immediate consideration by the Turkish Government, that for petroleum, it is hoped may also fall into British hands, while the three remaining monopolies, those for alcohol, playing cards, and cigarette paper, are not to be granted just yet.

MANUFACTURING IN SMYRNA.

PRODUCTION OF CONTAINERS FOR THE EXTENSIVE FRUIT TRADE.

Consul-General Ernest L. Harris, of Smyrna, submits the following facts concerning the making of wooden boxes and woven baskets in Asia Minor:

In Smyrna there are 6 big and 14 small factories which manufacture boxes by steam. The boxes are called skeleton cases, and are used principally in the fig-packing industry. The skeleton cases are made in various sizes, and will hold all the way from 8 large boxes to as many as 600 of the little round ones so frequently seen with figs on the American market. No less than 60,000 such skeleton cases are made in Smyrna in a single year during the fig season, and something like 2,500,000 additional ones for raisins. The wood from which all these boxes are made is imported from Roumania, while a small quantity is brought from the interior of Asia Minor. The price of a skeleton case varies from $3 to $5, and the price of a box for dried raisins ranges from 4 to 6 cents.

Since the proclamation of constitutional government in Turkey, some of the larger box manufacturing firms are organizing with the object in view of using much larger quantities of wood from the interior than has hitherto been the case. It is now understood that the Government will offer much greater facilities in this respect than formerly.

Pasteboard boxes for figs and raisins are frequently used. On account of transshipments, the boxes intended for the American trade are made much stronger than are those which are destined for the German or English trade. The wood used in this manufacture is pine wood or deal.

BASKET WEAVING.

Few baskets are employed in the fig-packing industry, and what are used in this particular branch of Smyrna trade are imported chiefly from Alexandria. There is, however, some considerable local basket-making industry which is carried on entirely by hand. It is practically a house industry. The workmen usually have some other staple employment, and resort only to basket weaving when they can not work in the fields, or business is slack in other trades.

The workmen are either employed by the day or are paid for a certain number of baskets. In Menemen, Magnesia, and other towns not far away from Smyrna there are regular workshops for weaving large baskets for domestic purposes. The material used is chiefly straw and grass. Prices range from 2 to 60 cents each, according to size and quality. It is estimated that something like 60,000 baskets are consumed by the Smyrna trade every year. The nomad tribes and gypsies of Asia Minor also weave a large quantity of baskets.

RUSSIA.

DEVELOPMENT OF RESOURCES IN THE MURMAN REGION.

Consul James W. Ragsdale, of St. Petersburg, sends the following brief report on industrial enterprise in the Murman district of Russia:

The local press has lately been discussing projected and desirable reforms for encouraging the development of industrial life in the Far North, such as the revision of laws on the colonization of the Murman; the encouragement of prospectings for mineral wealth in the Murman; the regulating of the registration of vessels and industrial associations; the provision of sums necessary for building roads, the absence of which is impeding the development of the country's industrial life, etc.

The spirit of private enterprise has been manifest in the Murman lately, the Trifino-Pecheng Monastery showing an example in this respect, having been the first to use waterfalls power for electric energy. This monastery is on the very frontier of Norway. Several fishing establishments were started there in 1908, and silver-lead deposits, containing 80 per cent lead ore, have been discovered and prospected and a company has been already formed for working the same. News has also arrived lately from the Rybachy Peninsula that rich copper beds have been discovered there.

CHINA.

CEMENT AND BRICK FACTORIES STARTED BY CANTON AUTHORITIES.

Vice-Consul-General Willard B. Hull, writing from Canton, gives the following account of the establishment of extensive works by the Chinese Government for the manufacture of building supplies:

The new cement works in Canton are now nearing completion and will start the manufacture of this product in March, 1909. The works are located on Honam Island opposite the city of Canton and on the south branch of the Pearl River.

In 1906 the properties of a wealthy Chinese merchant in Canton were confiscated by the Government, and included in these properties were some large limestone quarries on the North River. Shortly after this occurred some of the local officials in Canton conceived the idea of the Chinese Government building cement works, realizing the large amount of this material that would be needed in the construction of the Canton bund and the building of the railways in this province. The price of Hongkong-made cement had been high, and the authorities felt that besides supplying the government undertakings they could also put a certain amount on the market and realize some of the large returns which had hitherto been going to Hongkong.

ESTABLISHMENT OF THE WORKS.

The viceroy, therefore, in the early part of 1906 sent a report to Peking and asked for permission to use about 1,100,000 taels (tael= now 65½ cents) from the provincial revenues for the erection of a cement and brick works. The Imperial Government consented to this, and in May of 1906 contracts were let with a German company for the necessary machinery. The machinery was delivered about eight months after that date, but it was stored for nearly a year before any steps were taken toward putting it into use.

The institution, which is known as the Chinese Government Cement Works, will have a daily output of 500 barrels, each barrel weighing 375 pounds net. The cement-making machinery is of German manufacture, having been made at Magdeburg, and cost approximately $131,219 gold. The buildings, which are all steel, cost $116,200 gold. The brick works, which are to be operated in connection with the cement works, cost $47,310, which includes all of the fire bricks used in the building of the kilns. Two houses have been erected for the directors at an expense of $29,150, and the engine house will cost about $8,300. In addition to this there has been the expense of bunding along the river, which amounts to about $20,750, filling in $41,500, electric light installation $4,880, and the sum spent for cement used in construction, which runs up to nearly $29,150, making a total cost of the cement and brick works of $415,000.

The cement will be manufactured at a cost of about $1.15 a barrel, and they expect to put it on the market at $5 Mexican a barrel ($2.08 gold). This is 23 cents a barrel cheaper than the Green Island cement made in Hongkong, but if the competition becomes keen the Chinese can reduce their price considerably, as they expect to be able to manufacture the cement at a lower figure than it can be manufactured in Hongkong. The limestone used in the manufacture is brought to Canton in native junks from a quarry located at Fei Shui Ngam in Yintak district, on the North River, a distance of about 80 miles from Canton. As stated before, these quarries were confiscated to the Government, which has continued to work them, supplying the stone to the Green Island Cement Works in Hongkong. Now, however, in order to protect the Chinese works, a "likin" duty of $2 Mexican (83 cents) a ton is being charged on all stone shipped to Hongkong.

MAKING OF BRICK.

The brickworks, which are located on the same grounds as the cement works and which cost $47,310 gold, were put in operation in

October, 1908. The machinery used is also of German manufacture, having been made at Bergedorf. The works have an output of 2,000 bricks per hour of the German standard type, i. e., 10 by 4¾ by 2½ inches, and weighing 4⅓ pounds. The clay, which is of an excellent quality, comes from Whampoa, a distance of 12 miles from the works, and is delivered at the works at $1.25 gold for 7 tons. The entire output of the brickworks is being used at present by the Government in the building of the new Imperial Bank of China, in Canton, and in the construction of other government undertakings in this province. They will, however, be put on the market soon at $72 for 10,000, the buyer to take delivery. The works are being operated twelve hours a day, and the composition of the bricks is 26 per cent sand and the rest clay.

Taotai Liu is in charge of the works as managing director for the Government, and associated with him are four other directors appointed by the provincial authorities.

With the number of modern buildings now being put up in the city and the requirements of the various railroad enterprises and the bund, these works should give the Government excellent returns.

AUSTRALIA.

SETTLING THE COMPENSATION OF MARINE COOKS, BAKERS, AND BUTCHERS.

Consul-General John P. Bray, of Sydney, transmits a clipping from the Morning Herald, of that Australian city, wherein the award of the Commonwealth arbitration court is reported, fixing the wages of cooks, bakers, butchers, and scullery men employed on the interstate passenger and cargo steamers of the Commonwealth Steamship Owners Association.

From the figures given in the clipping, the following statement has been compiled, showing the minimum monthly wages to be paid by the Commonwealth Steamship Owners Association:

Employees.	Award.	Claimed.	Employees.	Award.	Claimed.
Interstate steamers:			Passenger vessels trading within the limits of any one State:		
Chief cook	$63.25	$68.00	Chief cook	$58.40	$58.40
Second cook	41.35	43.80	Second cook	34.00	34.00
Third cook	29.20	31.60	Third cook	24.35	24.35
Ship's cook	36.45	39.00	Cooks on board cargo and collier steamers	48.70	48.70
Baker	43.80	46.25			
Second baker, no award, present wages shown	24.35	34.00			
Butcher	34.00	39.00			
Scullery man	26.75	26.75			

In announcing the award of the arbitration court, Justice Higgins spoke as follows:

> The main features of my award are that I treat the payment of something like a living wage as the first essential to the settlement of a dispute, and that as far as possible I appraise the different degrees of skill according to the same scale as at present used and accepted by employers and employed. It is gratifying to know from the admissions of the respondents that the increases in pay are not beyond the capacity of this great industry, and that, while they will bring a gleam of gladness into many an humble household, they will not diminish the comforts of shareholders in the companies. I propose that the award shall have operation for five years from its date; and, in order to give time for making any new arrangements, that the new conditions as to work in port and the first payment of the increased wages shall begin with the year 1909.

MALAYSIA.

INVESTIGATIONS OF AUSTRALIAN COMMERCIAL AGENT REPORTED.

Consul John F. Jewell, of Melbourne, sends a copy of the report of the commercial agent for the Australian State of Victoria at Singapore on the subject of possibilities of trade with Malay States, Penang and Sumatra. The following are extracts from the booklet, a complete copy of which, with its lists of business houses, may be seen at the Bureau of Manufactures:

Railway traveling from Singapore to Pyre, opposite the island of Penang, a distance of 500 miles, is now possible. This main line going up the Malay Peninsula has branch lines from the coastal ports—Malacca, Port Dickson, Port Swettenham, and Teluk Anson—connecting with it. These ports have a daily service of steamers from Singapore. At Port Swettenham, the principal deep-water port on the coast, vessels drawing up to 22 feet can discharge, and frequently large steamers from Europe with railway material or machinery unload here, so avoiding transshipment or rehandling at Singapore or Penang.

Nearly every portion of the Malay States is intersected by an excellent system of good roads, the cheap labor and the abundant supply of laterite, limestone, and gravel enabling this to be done at a small cost. What was ten or fifteen years ago a jungle-covered country, with many parts almost inaccessible, is now, by means of railroad and macadamized road, as easily traversed as any old-settled country.

A considerable quantity of American flour was imported from Singapore during the last six months of 1908, owing to the higher rates ruling for Australian. I informed them all that the new crop in Australia gave promise of being a good one, and asked them to place themselves in communication with Victorian exporters before the new season opened. It was admitted by all importers who had dealt in American flour since the higher range of values of Australian had checked importations that its quality was not so good as the latter. Here, as also at Singapore, recently it was stated that mixing the flours from both countries has been resorted to by some Chinese dealers. With plentiful supplies of Australian flour offering at normal prices, after the new crop is available it will not pay to go to this trouble.

TOBACCO PRODUCING AND TIN MINING.

All the tobacco-growing companies around Medan produce only cigar-wrapper leaf of unequaled quality, and in order to do this take off only one crop from the same land in seven years. The jungle is allowed to grow upon the area which has been planted, and is recleared the sixth year for cultivation. About one and a half years ago I succeeded in getting Victorian tree and stump extractors used on the plantations, and there are now several hundred in use. Victorian plows and disks introduced were found to be too heavy in draft for the buffaloes used for haulage.

I found that since my previous visit a large number of cheap American single-furrow plows have been introduced and were being worked on plantations. The plows have a cast-iron moldboard, with wooden beam and handles, and are sold at about $10 each. Some companies purchased twenty to fifty of these for use by buffalo. If there were any breakages, repairs were easily effected; or if the plow had to be put aside, no great loss resulted.

Last year and the previous one enormous profits were made by these companies, owing to the high price realized for wrapper leaf (from 60 cents to $1.22 per pound), and dividends ranging from 20 to 150 per cent were paid. This season, however, lower prices have been realized in Amsterdam, owing to oversupplies, than for some years past.

Several tin-mining companies have recently installed plants of Victorian manufacture, and it has been generally recognized that the centrifugal-pump dredges from the state furnish both utility and economy in working, in the direction required. Since the fall in the price of tin there has followed a financial stringency, with high rates for money and restriction in bank advances, which has prevented a change in the direction of utilization of more of this class of machinery taking place in an extensive manner. Many proposals for the erection of up-to-date plants on properties which would give profitable returns have to wait relaxation of the prevailing stringency, as the capital required is unobtainable. What is being done by the use of Victorian dredges

and plant now is, however, creating a more than favorable impression as to their value for working the tin fields of Malay, and this is practically certain to bring about a demand for them as soon as conditions are favorable. The Rambutan plant, near Ipoh, erected by the Austral Otis Engineering Company, was the pioneer centrifugal-pump dredge from Victoria, and has done excellent work since its installation two years ago. It was this plant which led to the Dutch Government giving orders for the new plants from that company for the tin mines on the island of Banka. The working of these at Banka will no doubt lead to further orders from the Dutch Government, once their value is compared with the present system in operation at Banka.

CANADIAN MATCH TRADE.

LOCAL MANUFACTURERS SUPPLY BOTH HOME AND FOREIGN MARKETS.

Recognizing the fact that American matches are shut out of the Canadian market, Consul-General John Edward Jones, of Winnipeg, advises that trade opportunities are still offered to manufacturers of the United States in the supplying of match-making machinery and other equipment; also in furnishing raw materials (other than wood), as sulphur, phosphorus, paraffine, and the cotton material which forms the core of the wax match. His report upon the establishment of a match factory at Selkirk, Manitoba, and on this Canadian industry in general will be of interest:

Manitoba, and more especially Winnipeg, its metropolis and controlling business center, has not as yet reached the manufacturing period in the course of its industrial development. Lumber, bricks, and other articles which might be denominated "first aid to the settlers," are amply produced. Even large quantities of lumber are exported from the eastern part of this province, but varied manufactures exist only in the experimental stage, quite limited in numbers. The announcement, therefore, that a $40,000 stock company is establishing a match factory at Selkirk has been received with great approbation throughout the province. Winnipeg will give encouragement to the enterprise by providing trade and market facilities for the product. The plant when completed will have a capacity of fifty 10-gross cases per day, and will employ about 60 hands. It is expected the factory will be in full operation in March. All classes of matches which the trade demands will be manufactured.

ABUNDANT MATERIALS—EXPORT TRADE.

Selkirk is on the west bank of the Red River, 22 miles north of Winnipeg, at the head of deep-water navigation from Lake Winnipeg. It is a midway station on the Lake Winnipeg branch of the Canadian Pacific Railway, and is the terminus of the best suburban electric railway line running out of Winnipeg, with facilities for carrying freight. It is in the midst of an extensive district covered by a thick growth of native poplar.

The sawmills in the forests which occupy the shores and islands of Lake Winnipeg produce enough slabs, which the lake renders easy of transportation. Native poplar is abundant and cheap. At the end of winter the Indians of the reservation come to Selkirk with great trains of ox teams, drawing sleds loaded with poplar wood which sells for $2 to $2.50 per cord delivered. During these few weeks the residents lay in their supply of cord wood for the next winter season. The wood is light and burns rapidly. It is proposed to use this variety for the match splints, for which it is well adapted.

There are three other Canadian factories in operation [addresses on file at Bureau of Manufactures] which have a combined working capital of $250,000, one of which, with $190,000 capital, largely controls the trade. The three factories employ 278 hands, while the 24 Canadian match factories operating in 1871 employed 1,127 hands. The small factories have been closed up.

The exports of matches and match-making materials from Canada during the five fiscal years, 1903–1907, were:

Countries to which exported.	1903.	1904.	1905.	1906.	1907.
To Great Britain:					
Match blocks	$6,350	$6,524	$8,134	$29,721	$9,867
Matches and match splints	110,117	186,832	147,714	105,314	37,224
To United States:					
Match blocks	727	1,038	3,349	205	963
Matches and match splints	567	31	69	2,132	76
To other countries:					
Match blocks	21,018	32,145	2,827	....	....
Matches and match splints	1,327	5,689	3,983	1,666	1,460

The tariff on imported matches from the United States is 25 per cent ad valorem. No matches are imported into Canada.

BOY LABOR IN ENGLAND

A SERIOUS PROBLEM AND ITS EFFECT ON UNEMPLOYMENT.

Consul Albert Halstead, of Birmingham, further reviews the labor question in England, on the basis of an investigation by those deeply interested in its improvement:

A large number of people of prominence, including the bishops of Birmingham, Hereford, and Southwark, Lord Milner, Lord Stanley of Alderley, several members of Parliament, and others interested in labor matters and the conditions of working boys, have prepared a letter touching upon the question of boy labor and its effect upon unemployment. In this letter it is stated that the experience of all who have taken part in social, educational, and other work among boys and girls, and who are acquainted with their industrial life, goes to show that the seeds of much future unemployment are sown in the period between 14 and 20, and they express the conviction that no proposals dealing with unemployment can be taken as satisfactory that do not take into account these critical years.

The letter asserts first that within certain industries the conditions under which boys are employed are actually detrimental to their physical and moral welfare, and that in a large and growing number of industries the boys receive no adequate training for industrial life. They include in this class various kinds of street selling and carrying of baggage at railway stations. They quote the chief constable of Manchester as saying that street trading, of all juvenile wage-earning occupations, is productive of a greater amount of evil than any other occupations followed by children. This statement, it is asserted, is supported by evidence from Glasgow and by the last report of the prison commission, which clearly shows that unemployment has considerable importance in its bearing on juvenile crime.

DECREASED SKILLED TRAINING.

It is further asserted that the specialization of employment has resulted in the demand for boys and girls to perform operations of a purely mechanical character which give them no training that qualifies them for future employment and that in many occupations the proportion between men and boys employed is such that the boys can not be retained after a few years in the work which they enter at 14 or 15, because so many more boys are engaged than are needed to recruit the number of adult men employed to allow for the expansion of the industry. It is stated further that youths leaving these occupations at 18 years of age have no qualifications, save average physical strength and that they drift into the overstocked ranks of unskilled labor, where they experience chronic irregularity of employment and receive wages hardly sufficient to support existence. Nothing, it is stated, is more surprising in figures published by distress committees than the fact that so many of the applicants for relief are mere youths.

In the second place those interested in this problem, who have written the letter from which I quote, consider that the remedy for this state of things is not to be found in the universal revival of the apprenticeship system. That, they say, is no longer a method of training in harmony with modern industrial conditions in most of the great staple industries of England. While recognizing the advantages that apprenticeship had in the past, and might have now under different industrial conditions, they regard it as wise to recognize economic and industrial forces that appear to be inevitable.

THE REMEDIES PROPOSED.

Without seeking to depreciate other remedies or suggesting that their recommendations cover more than a small portion of the problem, they suggest the following practical remedies:

(1) The adoption by this country of a system of compulsory attendance at continuation schools up to the age of 17, accompanied by a compulsory reduction of working hours among young people under that age, together with the development of full-time day trade schools admitting children suitable for skilled industrial training.

(2) The raising of the school-leaving age, together with the abolition of the half-time system.

(3) The development of a national system of children's employment committees on a wider basis than now exists, working in association with the labor exchanges and in close connection with the elementary schools of each district, whose functions shall be to assist the children leaving the schools to secure employment as far as possible suited to their capacities and of a permanent character.

(4) The prohibition of street selling by all children under 17 years of age.

They express the belief that the adoption of compulsory continuation schools will reduce the great evil of employing boys merely as instruments of production without regard to their future careers, or from giving them the very unsatisfactory workshop training so often given the apprentice. The raising of the school-leaving age is recommended for the same reason. Boys and girls, it is asserted, leave the elementary schools at the age when they would profit most by instruction and training. It is argued that the removal from the labor market of the many thousands of boys who leave school at 14 or younger would relieve the unemployed problem among many older persons, while providing the opportunity for industrial training in the last year of school life. As to the proposed national system of children's employment committees it is asserted that real good could be done by the development of existing organizations and through closer cooperation with the labor exchanges on the one hand and the schools on the other.

GERMAN PEAT-GAS PLANTS.

ELECTRIC POWER AND NITROGEN TO BE WON FROM THE PEAT BEDS.

Consul-General A. M. Thackara, of Berlin, forwards a translation by Consular Agent W. B. Murphy, in which is discussed the utilization of the extensive peat deposits in Germany for the production of electric power, and, as a side product, of nitrogen fertilizer. The following extracts will be of interest:

A peat-gas plant is being erected near Svedala, Sweden, which will transform power won from peat into electricity, and this electric power will be conducted to neighboring towns for consumption by municipalities and industrial plants. Of the peat used in experiments, 100 kilos (220 pounds) produced about 327 cubic yards of waterless gas of 0° and 760 barometer stand. Peat-gas machines require less than half as much fuel as steam machines for the production of a given amount of power.

Calculations show that from central stations located on the banks of the Ems River, where there are extensive peat deposits, electric power can be produced and conducted to surrounding towns, not only as cheaply as that furnished by the south German water-power plants in Rheinfelden, but at prices that will compete with those charged for power in Scandinavia, Switzerland, and by the Niagara Falls company.

SUPERFLUOUS POWER USED ON BY-PRODUCT.

In order that Germany may not become dependent on foreign countries for manures containing nitrogen, the latent resources existing in the moors of Germany should be developed. This can be done with the greater advantage, because the technic in the manufacture of carbide permits great fluctuations in the supply of power and offers the possibility of working in such an intermittent way that if from time to time the power is used for other purposes the stopping of individual carbide-melting furnaces causes no essential disturbance to the plant as a whole. The manufacture of carbide operates, to a certain extent, like an accumulator, since it takes up and makes use of all electric power which from time to time remains unemployed.

With a plant of 10,000 horsepower 40 tons of carbide can be produced in twenty-four hours, and 100 parts of carbide with 25 specific parts of nitrogen give 125 parts of manure containing 20 per cent of nitrogen. It hardly needs to be pointed out that the yearly maximum production of 15,000 tons of manure containing nitrogen, by means of an electric central station of 10,000 horsepower, would give German agriculture, which now uses 500,000 tons of Chile saltpeter and

150,000 tons of sulphuric ammonia, a very welcome addition to its by no means sufficient supply of manures.

NITROGEN FERTILIZER MAY TAKE PLACE OF IMPORTED MANURES.

Taking as a basis the agricultural-chemical experiments carried out since the year 1901, it can already be considered as indisputable that calcium cyanamide (generally called calcareous nitrogen), which is obtained from calcium carbide by admittance of atmospheric nitrogen, constitutes in many cases a useful substitute for the manures containing nitrogen imported from abroad, particularly Chile saltpeter and sulphuric ammonia. For a successful competition of calcareous nitrogen with Chile saltpeter and ammoniac salts, the only essential condition is the cheapest possible production of calcium carbide, since the other ingredient, air, is everywhere the same. The price of calcium carbide depends essentially upon this, that the electric power, necessary for its production from lime and coal, be not expensive. Instead of paying tribute to foreign countries in ever-increasing amounts, Germany will be able to turn that money over to her own electro-chemical production of manures containing nitrogen, and by this means not only enlarge the circle of consumers of agricultural products, but also bring to extensive desert and comfortless moors a flourishing and profitable industrial and agricultural business.

[Further details contained in the pamphlet may be consulted at the Bureau of Manufactures.]

DRYING NEW BUILDINGS.

FRESHLY PLASTERED WALLS PERFECTLY DRIED IN THREE DAYS.

Consul Charles N. Daniels, of Sheffield, furnishes the following information concerning a demonstration of a hygienic system recently given in that English city in which builders took considerable interest:

Hitherto occupation of newly built houses has been delayed in order to allow them to dry, but with the use of this new apparatus freshly plastered rooms can be perfectly dried within three days, and the excessive moisture of the walls completely extracted.

The apparatus consists of a stove with a fire box, suitable for coke fuel, surrounded by a number of small-diameter tubes, similar to gas pipes. By means of the apparatus fresh, dry outside air enters constantly into the air-supply tubes, and is highly heated in the tubes surrounding the fireplace. It ascends in a dry-heated state in the room, passes along the ceiling and walls, and absorbs the dampness, sinking down after being saturated with the same and reentering the apparatus. It then mixes with the coke gases in the outlet tube for the smoke, and eventually escapes into the chimney.

This constantly renewed fresh outside air furnishes an abundance of carbonic acid to the mortar, thus hardening it, and producing in a short time the same effect as if the mortar had dried naturally. It is claimed by this system that no moisture can possibly show later on.

A striking recommendation for the apparatus is that the German law prohibiting the habitation of any house until six months after construction is abrogated by the authorities where this system is used.

TEXTILES.

RUBBER AND FIBER PRODUCTS.

MEXICO.

GOOD MARKET FOR CLOTHING AND OVERSHOES AROUND VERACRUZ.

Consul William W. Canada reports that the district and surrounding country of Veracruz offers a fine field for the opening of a large trade in rubber goods, especially clothing and shoes. Concerning this trade in that part of Mexico, he writes:

Until quite recently rubbers were almost unknown, for the prices asked for these goods were so high that few people cared to buy them. A pair of overshoes that could be purchased in the United States for about 60 cents would cost here $1.50 gold. While it is a fact that the import duty on this class of merchandise is equivalent to about 50 cents gold per each 2.2 pounds weight of the goods, it is equally true that the merchant buys at wholesale prices, and therefore the figure charged in this city for articles of this kind is exorbitant. A pair of rubber boots could not be purchased here at less than $8.

In the line of rubber clothing, such as coats, capes, hat covers, etc., the same conditions prevail. The prices charged for these articles are such that the majority of the people can not afford to buy them. The long rainy season in this part of the Tropics makes these articles almost indispensable for all outdoor employments, and, of course, for the police force also. As much of the traveling is done on horseback, where a person is exposed to the inclemency of the weather, rubber clothing, if it can be sold at a reasonable figure, would be in great demand. A rubber coat, known in the States as a "slicker," and which could be bought for about $3.50 in any department store, costs here $8 to $9. A so-called "poncho," worth about $2 in the States, is proportionately costly. The import duty on this class of goods amounts to $1.25 United States currency per 2.20 pounds. A native article in the shape of a "poncho" is on the market, but the vulcanizing is so poorly done that the goods become worthless within a short time.

It seems strange that a field offering such possibilities for the introduction of rubber goods should have been so long overlooked by American manufacturers. An alert drummer in the State of Veracruz and adjoining territory who would study the customs and habits of the people and familiarize himself with their needs could build up a good trade which, once established, would increase from year to year. Prices must be moderate for a good class of merchandise, for the experience of the people with imported goods of inferior grade has taught them to know that the cheapest is not the most economical. The manufacturer should not lose sight of the fact that this is a tropical climate, and his goods must be made to resist the extreme heat. A good, serviceable article at a fair price is what is needed, and the one who will conform to these conditions and will look up this business will be assured of an excellent trade in this line.

COLOMBIA.

PONCHOS AND MACKINTOSHES EXTENSIVELY USED.

Consul-General Jay White, of Bogota, submits the following facts concerning the market for waterproof garments in Colombia:

There are less than 500 miles of railway in Colombia, and nearly all traveling must be done on horse or mule back. The heavy tropical rains and "paramos" make waterproof garments necessary for all persons who travel. Their importation through Barranquilla (estimated at 75 per cent of the country's importation) is about 16,500 pounds, of which the United States furnishes about one-eighth and Great Britain nearly all the balance.

The poncho used by riders is quite like the model of the American cavalry. Light weights are preferred. They retail at $5 up. A short woolen poncho, or "ruana," mostly woven of native wool, is also much used.

Zamarros (mackintoshes) retail at $6 up. These are used by the natives to protect their legs from cold and rain while riding. They are long, loose overtrousers, cut very large from leather or mackintosh stuff. [Photographs showing the various articles referred to, as well as names of dealers in waterproof garments at Bogota, may be obtained from the Bureau of Manufactures.]

NICARAGUA.

GOOD OPENING TO CREATE MARKET FOR RAIN-CLOTHING.

Consul José de Olivares, of Managua, reports small demand at present, but good opening for waterproof garments in western Nicaragua. He says:

It is my belief that a good market could be established for serviceable rain clothing in western Nicaragua, although the present demand is small. Mackintoshes and overshoes are rarely used, umbrellas being almost entirely depended upon for protection against the heavy driving rains which characterize the long wet season extending from June until November. On account of the high temperature which prevails throughout the rainy season, any waterproof garments used must necessarily be of light texture, with which requisite, durability, and moderate cost should be combined.

ASIATIC TURKEY.

DEMAND WHOLLY SUPPLIED BY IMPORTATIONS.

The trade in waterproof garments in Asia Minor, through the port of Smyrna, is reported on by Consul-General Ernest L. Harris, of Smyrna, as follows:

The importation of waterproof goods into Smyrna amounts to $20,000 annually. No goods of this nature are manufactured in

Asia Minor. This city is a distributing center for waterproofs in the following proportion: Smyrna city 20 per cent, interior of Asia Minor 30 per cent, and the islands of the archipelago 50 per cent.

The kinds of waterproofs sold on this market consist chiefly in rain coats, with or without tippets and hoods. Tippets alone are also imported for the use of officers in the army. England supplies 60 per cent of the trade, Germany 20, and Austria 20 per cent. Thus far the preference has been given to the English make. On the whole these garments are cheap, at least the kind that are sold by the average retailer in Smyrna, the price of an ordinary rain coat being from $3.50 to $8, according to size and quality, while English macintoshes of a better class bring about $15. The shipping ports are London, Liverpool, Hamburg, and Trieste. Sales are generally made after receipt and examination of the goods, and sometimes cash upon delivery of the documents. If American manufacturers can put a good substantial waterproof coat on this market which will sell for $4 to $10 it will have an excellent chance along with similar articles shipped here by European dealers, to secure a good portion of this ever-increasing trade.

BRITISH INDIA.

RAIN-CLOTH PREFERRED TO RUBBER-SURFACED MATERIAL.

Consul E. A. Wakefield, of Rangoon, thinks that American exporters who take into consideration the climate of Burma may be able to extend considerably their trade there. He writes of the demand for waterproof garments:

The rainy season in Burma varies according to locality, but will average about five months, during which time rain falls practically every day. The demand for rubber clothing is therefore good.

The material should be light, as the weather is very warm. Retail prices for raincoats in Rangoon range from 14 rupees ($4.50) to 38 rupees ($12.30) all or nearly all of English make. I am not able at present to secure prices on capes, but they would be corresponding values. These prices are for rain-cloth garments, as the rubber-surfaced goods have not given satisfaction in this climate. They stick together and the surfacing pulls off unless carefully hung whenever not in use. The police are using waterproof garments similar to the ones worn by the London police, but they are not satisfactory for reasons stated.

This climate is so humid for months at a time that special precautions are required in many lines of manufactures. When this fact is understood and taken into consideration by American manufacturers, Burma, with abundant natural resources as yet mostly undeveloped and a population of more than 10,000,000, should be a very much more profitable field for exporters than at present. If inquirers are not prepared to send a representative to investigate conditions it would probably be more satisfactory and profitable to have some firm with branch stores handle the product exclusively with a reasonable annual sale guaranteed. Before the exporters could hope to do this a trial of their product in the country would be necessary to see if it would withstand the climate.

UNITED KINGDOM.

AMERICAN MAKERS OF RAINCOATS NOT REPRESENTED.

Consul Maxwell Blake, of Dunfermline, reports that no American maker of waterproof garments seems to be represented in Scotland. He says:

There are practically no dealers handling exclusively india rubber materials, or waterproof garments in this district, nor any concerns so far as I have been able to discover, that have a business in such materials sufficient to warrant direct importations. Glasgow, which is a city of 500,000 population and the principal distributing point for Scotland, is but 30 miles from this place, and Edinburgh less than half that distance, and the small dealers throughout this district, invariably place their small orders through the traveling representatives of the firms located in these and other large places.

One American firm which has been very successful throughout this part of Scotland, follows a method quite worthy of imitation, that of appointing agents in Glasgow and Edinburgh, who themselves employ traveling salesmen to solicit orders from the retail dealers in the different towns. It appears that no American waterproof makers are at the present time represented in Scotland in this or any other way. The climate of Scotland is damp and rainy from November to April, and sometimes entirely throughout the year, and waterproofs and waterproof garments are consequently an indispensable necessity.

GLASGOW.

RAIN-PROOF CLOTHING MUCH NEEDED—STRONG COMPETITION.

In reply to an inquiry, Consul J. N. McCunn, of Glasgow, advises that waterproof garments of every description and quality are in constant demand in Scotland at all seasons of the year. The consul says:

The wet season generally prevails from October to May, but the climate of Scotland is such that waterproof garments are usually required more or less during every month of the year. The average annual rainfall is about 45 inches.

All waterproof and shower-proof garments sold here are of British make and vary in quality, style, and price to suit the demands of all classes. American manufacturers of these lines of goods looking for an export market here should first satisfy themselves that they are in a position to enter and compete with a line of goods of equal or better quality and at a price equal to or lower than that of the British manufacturers, who control the market. I forward a list of the larger mercantile firms in Glasgow who handle waterproof garments. [Filed at Bureau of Manufactures.]

LIVERPOOL.

DEMAND MET BY ENGLISH MAKERS.

Vice-Consul W. J. Sulis, of Liverpool, reports as follows on the waterproof garment trade:

No waterproof garments seem to be imported into this country, the demand being met entirely by English manufacturers. Waterproofs are required here from February 1 to August 30. One dealer in this city, however, states that he will be pleased to consider the sale of American goods.

BIRMINGHAM.

NO CALL FOR AMERICAN RAIN COATS.

Consul Albert Halstead, of Birmingham, replying to an American manufacturer of rainy-weather garments, writes of the English market as follows:

There is comparatively little, if any, chance to sell American waterproof coats and capes in this vicinity. For a great many years waterproof clothing has been manufactured in England. The climate is such that even before the keeping of rubber from melting had become known, and that it could be used for clothing, closely knit woolen garments, such as Inverness capes, were manufactured and used to keep out the wet. Then came the manufacture of rubber coats, and later of cloth and rubber combined. One can buy a good waterproof coat here for $5, and oilskins are equally cheap. Across the street from this consulate is a very large rubber shop which shows in the window splendid garments at very low prices manufactured by themselves. There is a similar shop run by manufacturers in another equally prominent part of the city. The wet season in England prevails most of the time, though the past year has been unusually dry. Usually more than five days out of the week an umbrella has to be carried, and even then one is sometimes caught in the rain. It is not meant that it rains every day, but there are not a few months in the year when it rains five-sixths of the time, and rainy days are more frequent than others.

[Lists of dealers in waterproof garments in Burma, Western Nicaragua, portions of England and Scotland, with a series of sample books, and price lists from the last-mentioned country have been sent to the Bureau of Manufactures by United States consuls and are now on file.]

AUSTRALIA.

VALUABLE TEXTILE PRODUCTS DERIVED FROM A SEA GRASS.

Consul John F. Jewell, of Melbourne, reports the discovery in Australia of an extraordinary fiber of marine origin, which he says is likely to prove of great commercial importance. The consul thus describes it:

This fiber is the result of the sheddings of the leaf sheath of a sea grass botanically known as Posidonia Australis (of the order of Naiadeœ), and so far has been found only in Spencer Gulf, South Australia, where the sheddings have been imprisoned by the action of wind and waves in the sand flats of the gulf. The foreshore of the part of the gulf where the best deposits of the fiber exist is a long shelving bank with a clearly defined belt of live marine growth from low water seaward, with wide shallow sand flats stretching inshore to dry land, the whole being a mixture of fine sand, shell, clay, and limey substance on a limestone formation, and intermixed with this sand, shell, etc., are layers of the fiber averaging 12 feet in depth with 4 feet of water over the deposit.

Over one hundred soundings of the deposit have been made in different spots, and on every occasion the fiber was found, sometimes a few inches under the surface, at other times a foot or more, varying in color and fineness according to its depth, and there would appear to be millions of tons available, the accumulation of centuries. At 1 foot the fiber is mixed more or less with the decaying roots of the plant and marine growth above it, while at 2 or more feet it is cleaner and much brighter in color, but always mixed with the adhesive soil in which it is embedded. The best samples were found where the bed was covered with water at 2 to 10 feet deep. It is intended to gather the fiber by means of dredges fitted with special buckets and rakes, together with agitators and wringers similar to those in use for the washing of wool.

COST OF MATERIAL—USE IN FABRICS.

The bulk material in which the fiber is embedded is found to be easily worked, and it is claimed that the proportion of fiber recoverable is 1 ton to every 20 of the bulk material dredged. The cost per ton of rough dried fiber on board the dredge is estimated at 15s. ($3.65), and from the dredge it can be taken by tender daily to a nearby port and there dried mechanically, classified if necessary, dumped, baled, and shipped to any part of the world. The uses of the fiber are found by experiments made by competent persons to be many and varied, and it possesses many unique qualities. It will spin and weave in union with wool, and will also take dye equally as well (as demonstrated in one of the leading woolen mills here), being, so far as it is known, the only vegetable fiber to do this. It is practically noninflammable (its charring point being 373 degrees F.), and it is to that extent a nonconductor, unlike cotton. It does not shrink, and has more resilience than kapok. It is also found to be as good for ship calking as oakum. Blankets and cloth woven of a mixture of wool and this fiber together with samples of the fiber in various stages of production, from plant to yarn, are now on view in the sample room of one of the leading wool houses in Australia [name on file at Bureau of Manufactures], and the manufactured articles are being most favorably commented upon by those interested in the textile industries. On account of its splendid dyeing properties it can also be used in the making of carpets, also for coir matting, hessian, bagging, woolpacks, and it appears difficult to say to what other uses, with proper machinery, it can not be put.

A company to utilize the fiber commercially is now in process of formation, and it is anticipated that a ready market will be found for the fiber at 6 cents per pound, with a higher price for the finest grades.

CHINA.

ESTABLISHMENT OF RAMIE SPINNING, WEAVING, AND KNITTING PLANT.

Consul-General Amos P. Wilder, of Hongkong, makes the following report on the plans of a new company in South China to manufacture fabrics from ramie, concerning which the initial experiments have been recorded in Consular and Trade Reports:

Mr. C. C. Mackee, who has been in Japan and South China for some four years introducing American textile machinery, sails from Hongkong in a few days for the United States by way of Europe to purchase machinery to be installed in a plant to be devoted to ramie and cotton textile manufacturing. A company has been formed, headed by some dozen Chinese gentlemen, all returned from America, speaking English, and possessed of property. They have made an initial capitalization of $250,000 Mexican (at present exchange about $110,000 gold), and are remodeling for their use a series of buildings put up for the silk industry at Kau Kong, on the Delta, some seven hours' sailing from Canton. There is an excellent supply of water from an adjoining pond and river, and boats may be brought to the doors of the factory. Extensive areas of ramie are growing for the uses of the factory in near-by Kwangsi Province, but for the present raw stocks of ramie will be bought in the open market.

Mr. Mackee, who, by diligent efforts, has secured the confidence of these Chinese capitalists, is authorized to purchase all the machinery needed, including power equipment. Among the machines needed are decorticating, degumming, combing, carding, spinning, weaving, and knitting machines. These will be purchased in Europe and the United States. It is expected that any purchases in the United States will be shipped via the Suez Canal, as recent experience shows that machinery shipments by way of the transcontinental railroads of the United States are prohibitive or nearly so in point of charges. If this first plant is successful the same parties purpose subscribing further capital for the prompt establishment of a largely increased plant and expect to extend the lines of manufacture to take in various textile products.

Ramie from this district is being successfully worked into fabrics in France and England, and in the United States much attention is being devoted to experimental work with this fiber. Shanghai and Hankow, however, are the principal points of export for Chinese ramie in its raw state. A Shanghai plant has for some years been working up ramie into cloth, although the process of decorticating and degumming are said to be as yet not wholly solved. Mr. Mackee gives as his American address: "Textile American," 947 Old South Building, Boston, Mass.

THE SILK INDUSTRY.

AMOUNT OF FIBER CONDITIONED IN EUROPEAN CENTERS.

The following return shows the silk conditioned at European silk centers during the year ended December 31, 1908, with corresponding figures for the preceding year, as published by the Bollettino di Sericoltura of Milan (kilo=2.2 pounds):

Silk centers.	Organzine.		Tram.		Raw.		Other.		Total.	
	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
Milan	1,452,325	1,406,375	1,432,570	1,256,895	6,706,045	6,330,250	510,525	535,750	10,101,465	9,529,270
Lyon	969,917	976,285	1,052,514	1,220,767	4,836,368	5,039,027	89,601	92,521	6,948,400	7,328,600
Zurich	489,872	547,138	541,689	530,800	312,114	380,323	....	....	1,343,675	1,458,261
Crefeld	179,343	207,442	140,952	139,478	85,959	119,900	11,734	15,052	417,988	481,872
Basel	317,741	247,439	182,653	133,605	170,969	170,016	1,197	305	672,560	551,365
Turin	251,451	209,957	12,413	12,817	281,679	253,605	....	4,470	545,543	480,849
Elberfeld	303,410	245,246	162,596	132,589	170,816	152,858	....	....	636,822	530,693

GROWTH OF INDUSTRY AND IMPORTS INTO UNITED STATES.

The United States imported in 1908 raw silk to the value of $65,021,066, or about the same as in 1906, the imports in the intervening year 1907 having reached $73,097,581. The largest share comes from Japan—about $40,000,000 worth a year—while about $15,000,000 worth is brought from Italy.

The latest census figures, those for 1905, showed that there were 624 silk mills in the United States, with $109,556,621 capital employed, which was double that of 1890. In 1870 only $6,231,130 was invested in silk mills, and in 1860 the amount was only $2,926,980. The value of the products proportionately increased from $6,607,771 in 1860 to $133,288,072 in 1905. The raw silk used in 1860 was 462,965 pounds, and in 1905 it reached 11,572,783 pounds. The raw silk imported in 1908 amounted to 18,723,119 pounds, exclusive of waste.

The importation of manufactured silk goods, however, has continued to grow, having advanced from $31,281,273 in the year 1905 to $34,621,064 in 1906 and $41,035,836 in 1907. There was a natural decline in 1908, owing to general business curtailment, the imports reaching only $27,020,212. The share of France in this trade is about 40 per cent, Germany about 20 per cent, and Switzerland and Japan each about 10 per cent.

Australasia Wool Exports.

Consul-General John P. Bray, of Sydney, states that the following are the published figures of the wool exports from Australasia from July 1 to November 30, 1908, compared with the same period of 1907, the net decrease from which was 56,582 bales:

	1907.	1908.
	Bales.	*Bales.*
New South Wales	378,128	378,564
Victoria	198,374	122,879
Queensland	85,755	94,033
South Australia	110,641	101,764
West Australia	26,014	30,245
New Zealand	65,635	80,480
Australasia	864,547	807,965

METALS AND MACHINERY.

SILVER-PLATED FLAT WARE.

DOMINICAN REPUBLIC.

A GOOD OPENING FOR BUILDING UP AMERICAN TRADE.

Consul Ralph J. Totten, of Puerto Plata, furnishes the following information concerning the trade in silver-plated flat ware in the Dominican Republic:

Investigation shows that there is a very good opportunity for building a trade in flat and table ware in this part of the Republic. American manufacturers and dealers have apparently made no serious effort thus far to gain a share of this business.

All flat ware has been divided into four classes by the customs officials, viz, cheap, galvanized, ordinary, and fine. The cheap, made of a soft, composite metal, comes from Germany. They are sold in sets of three—knife, fork, and spoon—costing about 25 cents per set. The duty on this grade is 73⅘ per cent ad valorem. They retail for 60 cents per set. The galvanized is also from Germany, and costs about $1.25 per dozen, pays a duty of 73⅘ per cent ad valorem, and sells for about $3 per dozen.

The ordinary grade includes everything between these and plated ware, and pays a duty of 73⅘ per cent on a fixed value of $4 per dozen, working out at $2.95.

The fine includes all plated ware or sterling silver, and is imported almost entirely from France. There is at present no dealer in Puerto Plata carrying a stock of this grade, most of which is ordered by families direct from the French merchants. This is made possible by the fact that this country has a parcels-post convention with France. The most popular grade is a medium heavy plate, costing in France about $6 per dozen for forks and spoons and $3 for knives. The duty is 73⅘ per cent of a fixed value of $6 per dozen, working out at $4.43 per dozen.

HOW TO WORK UP AMERICAN TRADE.

The people do not seem to be prejudiced against American-made goods; they simply order the kind that they know and are accustomed to buy. The one best way to get a new line established in this country is to send a Spanish-speaking salesman. His first trip may not pay expenses, but if goods be exactly as represented and come up to expectations, the trip would more than pay for itself in future orders. A salesman could make arrangements with a local commission merchant to handle the line and could then make a personal canvas of the hotels and the best families. A few sales on the first trip would net big results in the future. If it is not practical to send a salesman, the next best thing would be to send a catalogue, printed in Spanish, to certain addresses. [On file in the Bureau of Manufactures.]

FRANCE.

AMERICAN DESIGNS NOT SUITABLE TO THE MARKET.

Consul-General Horace Lee Washington reports as follows concerning the plated silverware trade of the Marseille section of France:

The designs of the American teaspoons (known to the trade here as "coffee spoons" or cuillères à café), were submitted to several of the leading dealers in this city. Two of the principal dealers made careful examination of the designs submitted, this being the only practical examination possible in the absence of weights and quality upon which to base an accurate appreciation of prices. Both dealers criticised the eight designs of American manufacture submitted on the same ground, that they were not adapted to the French market, for the reason that these designs, although familiar to the American market, mean nothing to the French purchaser, who desires classical styles with which he is familiar, such as the periods Louis XV and XVI, Empire, etc.

Only one design submitted of an art nouveau character met with approval, and were the quality of this pattern and the price satisfactory, it is possible that some sale might follow proper introduction. However, as stated, without knowledge of the quality of the metal employed, the weight of the silver, and the finish of the design, which would require comparison with an actual sample, it is impossible to furnish practical information.

Teaspoons of a quality which is regarded as first class, but of an entirely plain design, sell here at retail at $1.75 per dozen. Prices then increase, according to the elaboration of the design, to $2.90, $3.30, $3.90, and upward.

Plated ware imported into France pays the following rates of duty, the general tariff being applied to imports from the United States, per 220 pounds, net:

Jewelry, gold or silver plated, on silver, copper, pakfong or pinchbeck; general tariff, $115.80; minimum tariff, $96.50.

Silver-plated ware, objects in pure nickel or nickel-plated; general tariff, $28.95; minimum tariff, $19.30.

[A list of silverware manufacturers in Paris and Marseille, and of Marseille dealers in silver, transmitted by the consul-general, is on file in the Bureau of Manufactures.]

NANTES.

CHARACTER OF SILVER-PLATED WARE IN USE.

Consul Louis Goldschmidt, of Nantes, reports on the market for silver-plated ware and the laws governing sale of articles of gold and silver in France as follows:

The silver-plated ware used here is generally of French make, and great care is taken by the manufacturers to produce artistic ware of certain styles. The styles most in favor are Louis XV, Louis XVI, and art nouveau. The other styles do not sell readily and the people do not care for them.

French tableware is larger and heavier than the American and is more expensive, and it seems to me that the American manufacturer who takes care to study the styles demanded by the trade and produces them in the required sizes, etc., might do some business here.

LAWS GOVERNING THE SALE OF GOLD AND SILVER ARTICLES.

Sterling silver is more difficult to import from the United States, on account of the government control, as each piece of silverware must be stamped by the government officers, and a tax per weight is paid for control. Silverware that has not the stamp of the government control can not be sold, and none is permitted entry from abroad unless it passes through the " controle " and pays the stamp tax. The same may be said of all articles of gold. I give the following extracts from statutes governing this class of trade:

> The French Government acknowledges only 3 " titres " (grades) for manufactures of gold and 2 for silver, viz: Gold, 0.0950, 0.0800, and 0.0750; silver, 0.0950 and 0.0800.
>
> Gold and silver ware coming from abroad should be presented to the customs officials at the time of entry into the Republic, to be declared, weighed, marked, and sent to the nearest bureau of guaranty (assay), where it will be stamped with a stamp marked "ET," and where it will pay taxes equal to those paid for gold and silver ware manufactured in France.
>
> The guaranty taxes perceived on gold and silver ware are the following: Gold, 30 francs per 100 grams ($5.79 per $3\frac{}{1000}$ ounces); silver, 1.60 francs per 100 grams (30 cents per $3\frac{527}{1000}$ ounces). The tax paid for assay is as follows: For gold ware, 3 francs (57 cents); silverware, 80 centimes (15 cents), for each lot assayed, no matter what quantity or weight.
>
> The following additional tax is paid for assay with the touchstone for articles of gold only: Nine centimes per 10 grams (1.7 cents per $\frac{352}{1000}$ ounce).
>
> The French Government requires that all gold and silver ware coming from abroad bear: (1) The stamp of the manufacturer; (2) the titre (grade) stamp; (3) the stamp of the Government (ET).

The import of plated ware is easier, and no other restriction excepting the payment of duties exists. The best way to introduce American ware would be by sending salesmen with samples to visit the trade; men who could talk the language. Little could be done by correspondence until after trade connections have been established. Catalogues should be illustrated, printed in French; weights and measures should be in the metric system.

[A list of the principal French manufacturers of silverware, of the dealers who sell silverware in Nantes, and of the cutlers of Nantes, transmitted by the consul, is on file in the Bureau of Manufactures.]

GERMANY.

AMERICAN PLATED WARE CAN FIND A MARKET THEREIN.

The following information concerning the trade in silver-plated flat ware in Germany and how American manufacturers can secure a share of that trade is furnished by Consul-General Robert P. Skinner, of Hamburg.

Although in former years considerable quantities of silver-plated spoons, forks, knives, and other flat ware were imported into Germany from England, also small quantities from the United States, such imports have decreased in the last ten to fifteen years so much that only a few fancy articles of English manufacture are to be had in local stores now, and the American-made silver-plated flat ware has become entirely unknown. The fact is that the German metal industry has developed so rapidly that it has not alone been easy for the manufacturers of silver-plated flat ware to oust their foreign competitors from the local markets, but they have also succeeded in building up a remunerative export trade, in which the German wares can well compete with that of its foreign competitors.

MODELS, PRICES, AND PECULIARITIES OF GERMAN WARE.

It appears, and this presumption is confirmed by the leading retail dealers in silver-plated flat ware, that the English and American models, particularly in spoons and forks, are not as popular in Germany as those of the German factories, the bowls of German spoons being narrower, longer, and more pointed, and the prongs of forks longer and more slender in shape than the models chiefly in use in American homes.

Plated teaspoons of the very best quality sell here at retail at about $3.20 per dozen; in inferior qualities, $2.75 and $2.25. Tablespoons, forks, and knives, silver plated, of the best qualities, sell at about $6.20 to $6.70 per dozen. The profit in such sales of the retail merchant is about 30 per cent of the price at which he buys.

A peculiarity of the silver-plated flat ware turned out by the German manufacturers is that the goods are stamped so as to show the quantity of silver used in the plating. For instance, if a tablespoon or a fork is stamped with the figure "100," this indicates, and serves as a guaranty on the part of the manufacturer toward the dealer, and by the latter toward the customer, that 100 grams (3.53 ounces) of silver have been used for plating 1 dozen tablespoons and 1 dozen forks. It is claimed that the public has become so accustomed to this method of guaranteeing the quality of the article that it is difficult to sell silver-plated flat ware not bearing such stamps; for instance, that of English make, although the latter is highly esteemed in Germany and appreciated as being not inferior in quality to its German rival. The English manufacturers only guarantee "first," "second," and "third" quality, and, my informant states, can not be induced to adopt the German method.

ROOM FOR AMERICAN PLATED WARE IN GERMANY.

In spite of the foregoing it can not be said that it will be impossible to introduce American silver-plated ware in Germany, as the cost of freight and duty is not high enough to have a preventive effect. The import duty on silver-plated goods in Germany is only $28.56 per 220 pounds, and, owing to the comparatively small dimensions of the article, the ocean freight is of little consequence in the price.

The American manufacturers desirous of extending their business and of winning a share in the German market should, however, carefully study its conditions before placing themselves in communication with local dealers with a view of obtaining orders, and they should have sales rooms in the large cities of the Empire, where retail dealers can at any time find on hand a well-assorted stock of all current and favorite articles, and of novelties, as they come out from time to time.

It is my opinion that, in silver-plated flat ware, fancy articles, such as fish and salad, butter and cheese services, fruit knives and forks, dessert spoons, and similar goods, can be more easily introduced than ordinary spoons, forks, and knives. The reason therefor is not alone that above stated, namely, that the current German styles are, and are likely to remain, in vogue in preference to new models, but also the fact that the large German manufacturers have secured such a stronghold throughout the Empire that it is not difficult for them to outrank foreign competition in connection with the supplying of large quantities of flat ware, such as are used for the equipment of large hotels and restaurants, passenger steamers, etc.

[A list of names and addresses of Hamburg dealers in silver-plated articles, as well as of factories in Germany manufacturing such goods, is on file in the Bureau of Manufactures.]

UNITED KINGDOM.

CONDITIONS UNDER WHICH THE PLATED-WARE TRADE IS CARRIED ON.

Consul Albert Halstead furnishes the following information concerning the trade in silver-plated and electroplated ware in Birmingham, and the opening in that market for American flat ware:

This consulate, with Sheffield, is the center for silver-plated and electroplated ware in the United Kingdom; therefore, in endeavoring to introduce such articles into this market will be entering as competitive a territory as can be found. Birmingham electroplate is excellent in quality and, as a rule, attractive in design, and comparatively low in price.

The designs of the American spoons at hand are most attractive. I have not seen any designs quite similar here, and think, perhaps, none are quite as pretty, certainly not any prettier; but Birmingham has a jewelers and silversmiths' school, and special attention is being devoted to improving the designs of jewelry and silverware, so it can not be long before spoons equally attractive will be on the market. [Birmingham retailers of silverware are listed .at the Bureau of Manufactures.]

METAL-WARE MARKETS.

BRITISH INDIA.

DEMAND FOR IRON PIPE—PRICES TO BE MET.

Responding to a Chicago inquiry, Consul E. A. Wakefield, of Rangoon, says that the demand for iron pipe in Burma is increasing, so that it is merely a question of price and product which will determine whether American manufactures can be marketed there. He reviews the market conditions:

About 3,000,000 feet of smaller sized pipe is used annually in Burma, which is all or nearly all of English manufacture. The large pipe, also from England, is used by the larger municipalities and by the Burma Oil Company. Rangoon has quite an extensive sewage and water system. According to some reports the system is to be extended very materially in the near future, probably within this year. I was unable to obtain official confirmation of this, but if true, it will be communicated later. Prices are as follows:

Diameter.	Length.	Price per foot.
	Feet.	*Cents.*
2½ inches	3 to 6	28
3 inches	8 to 6	36
4 inches	3 to 6	40

These prices are delivered on board vessel in Rangoon River. The following prices for larger sizes are f. o. b. per ton, London, England: 9-inch pipe, $23.08; 12-inch, $21.04; 27-inch, $21.88; 42-inch, $21.48;

specials, bonds, joints, etc., $45. Customs, 1 per cent, and wharf charges, harbor dues, etc., will amount to probably 1 per cent more. [The names of Rangoon dealers in metal goods and the address of the official who should be addressed in regard to government contracts are filed with the Bureau of Manufactures.]

RUSSIA.

SOUTHERN-RUSSIAN DNIEPROVSK METALLURGICAL WORKS.

Consul-General Hunter Sharp, of Moscow, reports that the most prominent among the iron and steel works of Russia are the Southern-Russian Dnieprovsk Metallurgical Works, which are located on the Dnieper River, covering an area of 527 acres, near the city of Ekaterinoslav, and are connected by railroads with Moscow and Odessa, the distances being 677 and 471 miles, respectively. Mr. Sharp describes the mill briefly:

These works have been in operation since 1889, the present capital employed being 9,000,000 rubles ($4,635,000) and divided up into 36,000 shares. There are 5,680 men employed, and the annual output amounts to 17,000,000 rubles ($8,755,000). This company owns its own iron and coal mines, which are in easy reach of the works.

The productions are, Iron: pig and ingot, bar and rod, sheet and plate, pipes and tubes, wire, screws, bolts, and nuts. Steel: Bar, sheet and plate, wire and rails. Materials for bridges and buildings, railroad axles and wheels, boilers, reservoirs, and tanks. The Commercial and Industrial Gazette of St. Petersburg reports that these works exported 37,866 tons of steel rails during the twenty months ended October, 1908. Of this, Italy took 14,016 tons, Japan 6,285, East India 5,792, Australia 5,000, Bulgaria, 3,508, England 2,000, and Roumania 1,265. It is further reported that these works have recently contracted with a London firm for the delivery of about 880,000 poods (pood=36 pounds) of rails of 35 pounds to a foot for railroads in Ireland and China.

JAPAN.

STEEL AND IRON DEPRESSED.

According to Consul John H. Snodgrass, of Kobe, it is affirmed by the Osaka Mainichi, a newspaper that watches carefully the industrial conditions of Japan, that the depression in the iron and steel mills has now reached a climax. The consul says further:

This unfavorable situation is attributed mainly to the depression in the shipping trade, but also in some degree to the development made in electric works, which has reduced the demand for steam engines. Not only are no orders being given out for the construction of new steamers, but repairs to steamers are postponed. Usually at this time of the year shipbuilding yards are encumbered with vessels put in for repair, but this season the steamship owners have been compelled to hesitate before incurring this expense. The Japanese are effecting the minimum amount of repairs to their vessels necessary to enable them to pass the regular official inspection. The price of repairs and other works has been steadily declining with a scarcity of orders, and shipbuilding yards and iron works are faced with a serious situation. It is impossible for them to suspend operations altogether, however, and they have been manufacturing steam engines in the hope of having buyers for them when completed. The number of operatives at ironworks is now reduced to about one-third of the number employed when business was active. The larger shipbuilding yards and ironworks are especially affected, the smaller struggling on with less difficulty, though some have closed down altogether.

COAL-CUTTING MACHINERY.

NEW BRITISH LABOR LAW FORCES USE OF MECHANISMS.

Concerning the new eight-hour act recently enacted by the British Parliament, limiting the employment of miners below ground to that number of hours per day, Consul Maxwell Blake, of Dunfermline, says that it has evoked widespread discussion. As to its effect on changing the mining of coal to more mechanical operations, the consul wrote just before the passage of the bill:

Opponents of the measure prophesy that the law will contract the output of British coal, which has served to renew interest in the Report of the Royal Commission on Coal Supply in 1901, or at least that part dealing with the subject of coal-cutting machinery. Thus the economic aspects of the measure become primarily involved with the subject of the application of mechanical coal-cutting appliances, for unless Parliament is able to convince itself that the contemplated curtailment of the working hours of miners would be more than offset, or at least counterbalanced, by the further adoption of mechanical power below ground, the passage of the act will be impossible, especially since it is estimated that a 10 per cent reduction of working hours would mean an annual shortage of 26,000 tons production.

Summarizing the substance of recent government reports, it may be stated that the recognized outstanding benefits accruing from the employment of coal-cutting machinery are, first, that a larger and more regular output of coal is obtainable, accompanied by such other advantages as an increased percentage of large coals; improved subsurface conditions as to ventilation and timbering; the profitable removal of coal otherwise unworkable; the use of fewer explosives in taking the coal, and in many cases an annual reduction of cost as compared with hand labor.

EXTENT OF MACHINERY.

Considering the recognized high mechanical efficiency that coal-cutting machinery is now officially declared to have achieved, and in view of the possibilities of its more extended adoption, the present occasion does not seem inopportune for some review of its present use and apparent prospects.

Speaking for east Scotland, from a rather thorough canvass of the coal districts of that section, I find that approximately 11 per cent of the total amount of the coal mined at the present time in this district is cut by machinery; in other words, during the year 1907 there were 257 machines at work in this territory, the combined production of which reached 2,641,740 long tons, or just under 11 per cent of the total output of coal in the designated territory during that year. In addition there are 205 machines in west Scotland, which makes altogether 462 coal-cutting machines in actual operation at the present time in all Scotland.

It is interesting to observe that although coal-cutting machines were introduced as long as fifty years ago, in 1902 there were only 166 in all Great Britain, while in 1907 there were 1,493. In the United States in the year 1906 there were 10,212 machines in use, and the percentage of the total coal mined then by machinery was more than 35 per cent. Each machine had an average of 11,638 tons production, as against 8,630 in Great Britain.

PRODUCTION STATISTICS.

I herewith append an interesting table, showing the growth in popularity of coal-cutting machinery in the United Kingdom since 1902:

Year.	Collieries where machines are at work.	Machines.	Worked by—		Coal obtained.	Total coal production of United Kingdom.	Per cent.
			Electricity.	Compressed air.			
1902	166	483	149	334	4,161,202	227,095,042	1.8
1903	225	643	231	412	5,245,578	230,334,469	2.8
1904	249	755	270	485	5,741,014	232,428,272	2.5
1905	295	946	446	500	8,102,197	236,128,936	3.5
1906	333	1,136	451	685	10,202,506	251,067,628	4.0
1907	(a)	1,493	643	850	12,877,244	267,830,962	4.8

[a] Not published.

FURTHER ADAPTATION.

After Yorkshire, Scotland shows a more rapid increase in the application of mechanical processes in coal mining than any other coal-producing district in Great Britain, and no district in Great Britain at the present time appears to offer such favorable opportunities for the further employment of mechanical coal-cutting devices. During the last ten years, east Scotland has doubled its coal output, and trebled its shipments, and this, in spite of the fact that practically all of the best, thick, easily worked seams have long been exhausted and a class of hard and, relatively speaking, inferior coal taken from thin seams, at an average depth of 250 fathoms, is now being mined, the best coal invariably being at the bottom and becoming inferior in quality as it approaches the surface.

Those who possess a practical knowledge of mining conditions in other places assure me that the success of profitably working many of the Scottish coal properties of the present day depends not only upon the most efficiently organized and economical management, but, if anything, to even a greater degree upon the unusual skill of the Scottish miner. This statement is borne out by comparative statistics, as I find that the annual output per miner in Scotland has always been larger than in any district in Great Britain, in 1907 it being 347 tons, as against 308 tons in the Midlands, the second largest district in individual output.

To the initiated it is obvious that these existent conditions invitingly contribute to the use of mechanical coal-cutting methods, and while, as in many other mining localities, both in Scotland and elsewhere, the inclination and irregularity of coal seams will prohibit a universal adoption of coal cutters, it has been estimated to me from credible sources that eventually from 40 to 50 per cent of Scottish collieries will depend upon mechanical coal cutters for as large a proportion of their output as these varying conditions will allow.

VARIOUS SYSTEMS EMPLOYED.

Concerning the general methods employed in removing the coal, the Longwall system is preponderatingly advocated, and is practically of universal adoption on this side; first, from the fact that the engineers of this country contend that it reduces mineral waste to the minimum and better facilitates the application of mechanical power, since a continuous working face is presented, extending several hundred yards in length, and the purpose of the machine is thereby simplified to the one operation of undercutting the exposed coal seams, subsequently admitting of its easy cleavage by hand. This method also lends itself to a more expeditious transit of the mineral by means of coal conveyors, since temporary tracks are readily laid along the entire length of the working face, and the coal is often broken down into the waiting receivers, effecting a net saving of from 12 to 15 cents per ton on all coal brought to the surface under such conditions.

I believe that the Longwall method is little used in America, where the so-called "square" system largely prevails, and therefore, as may be inferred, there exists a corresponding difference in the design of the coal-cutting machinery as used in the two countries.

The question for our manufacturers of mining machinery to determine is whether it will not be worth their while to alter the structural operation of the popular American types to suit the requirements of the British trade, in view of the increased demand for coal-cutting machines that must inevitably follow the passage of the "eight-hour bill."

To the best of my knowledge, the chain breast coal-cutting machine which is so largely employed in the United States is practically unknown here, as I am told it can not be efficiently applied to the hard quality of coal mined in Great Britain. On the other hand, while there are 1,102 Longwall disk machines operating in Great Britain, there are only 157 Longwall chain machines working below ground in the United States. Further, this special disk type, which is, perhaps, the most popular make on this side, is but scantily represented in the United States. This type of machine may be described as being very compact of structure, perhaps about 1½ feet high, 4 feet wide, and 9½ feet long, and is suitable for cutting very hard material almost level with the mine floor. The propelling motor is of the 4-pole type and is reversible; the wheels are amply proportioned; it has a powerful haulage gear and is equipped with large diameter shafts, all incased in an armature designed to withstand great strain.

Of the numerous types of machines of recognized merit, notably, the so-called "heading" type, I am told that not over 400 of these machines are now in use in Great Britain.

COMPARATIVE USE IN THE TWO COUNTRIES.

As far as statistics are comparable under the diversified conditions of coal mining in the two countries, it may be interesting to enumerate as specifically as possible the proportion of the different types of machines in actual use in the United States and Great Britain. Thus, of the total number of machines in operation in America, 5,911 are designated as of the pick or percussive type, 4,144 of the chain-breast pattern (quite unknown in Great Britain), and 157 of the Longwall chain type, which includes in its total 11 pick and 26 chain shearing machines.

In Great Britain in the year 1907, the latest for which statistics are available, there were 802 Longwall disk machines, 222 of the bar type, 79 of the chain type, and 364 of the different percussive makes, employed to open up Longwall workings, the latter principally known as the "Siskol" and "Little Hardy" types. The favorite bar coal cutters in use in Scotland are the "Hurds patent" and others made by the firm of Mava & Coulson.

As to the motor power by which these various types are driven, there is practically a division between the use of electricity and compressed air; the favorite Longwall disk machines are generally operated by compressed air, and the chain and bar types by electricity. Each method, however, has certain recognized objections, the inadequate transmission of compressed air and the noise of the exhaust being offset by the more or less remote danger of ignition of inflammable dust and fire damp from electric sparks. The assured success, however, of coal-cutting machinery is best attested by the fact that while twenty years ago the output of British coal was thought to have reached its maximum, the present output has been annually increased, as compared with ten years ago, by over 50,000,000 tons.

EFFECTIVENESS OF MACHINERY.

Although Great Britain produced more coal than the United States ten years ago, the production of the latter country is now 60 per cent more than that of its former rival. In fact, two-fifths of the world's production is now accredited to the United States. These facts also contain a further tribute to the effectiveness of coal-cutting machinery, as we find that while there are 940,618 persons employed in mines in England and 118,410 in Scotland, making a total of 1,059,028, there are but 640,000 similarly employed in the United States, producing 60 per cent more of output. A striking fact is that in spite of a phenomenally rapid development in the United States, officially given last year as 429,000,000 tons production (which is an increase of fourfold in twenty years), practically the entire supply of coal mined in the United States continues to be consumed within that country—a very interesting evidence of the growth of manufacturing industries in the United States.

In 1897 Scottish mines produced 40,009,200 tons. In the same year the total production of Great Britain reached 267,828,000 tons, out of which 183,146,000 tons were retained for domestic consumption. Germany and northern Europe continue the best market for north British coals and South America for Welsh coals.

HAND VERSUS MACHINE WORK.

The relatively high cost of labor in the United States and the softer quality of coals mined admittedly contribute to make the use of mechanical power more or less economical, and although the same conditions do not obtain in Great Britain, where there is a large reserve of cheap labor, the report of the committee upon mechanical coal cutting of the North of England Institute of Mining and Mechanical Engineers in 1903 stated that out of 36 instances the cost of machine work as compared with hand labor in Great Britain showed a saving in cost of from 12 to 15 cents per ton, the itemized cost being, for hand labor from 36 cents to $1.30, while that of machine labor averaged from 26 cents to $1.12, the costs varying according to the prevailing thickness and hardness of the seams, which were from 1 to 6 feet.

In a report by the royal commission on coal supplies there was concurring evidence that the operation of coal-cutting machinery worked out at a slight saving.

A few peculiarities of coal mining in east Scotland are that the pits are generally square or rectangular in shape and lined with wood, instead of the usual brick or iron, the use of wood having proved more economical; but as pits are now being sunk to a depth of from 300 to 400 fathoms, round or elliptical pits have been adopted to allow adequate space for ventilation.

In conclusion, it has been attempted to show that both because of the practical exhaustion of the thick hand workable seams, as well as the other imminent conjunctive, namely, the passage of the eight-hours act, mining conditions throughout this country generally are, out of economic necessity, more receptive than ever to a further employment of if not an actual dependence upon mechanical-cutting appliances, providing the present activity of production is to be maintained.

TRACTION ENGINES IN TASMANIA.

NECESSARY MODIFICATIONS FOR AMERICAN AND OTHER MAKES.

Consul Henry D. Baker, of Hobart, reports that during the present session of the Parliament of Tasmania an act has been passed regulating engine traffic on roads, and that the new regulation may necessitate considerable modification of types of wheels of some of the engines now exported from the United States to Tasmania. His details and trade comments follow:

The particular clause in the act regulating this traffic which is of interest to American manufacturers of engines for export to Tasmania is as follows:

> All wheels on engines shall be cylindrical and metal soled or shod with diagonal crossbars (permanently attached) of not less than 3 inches in width, not more than three-quarters of an inch in thickness, extend the full breadth of tire, and the space intervening between each such crossbar shall not exceed 3 inches.

It seems quite likely that similar legislation may be enacted in other States of the Commonwealth, so that it is important that makers of traction engines should give careful study to this regulation, not merely because of the Tasmanian trade, but because of the possibility of similar regulations being put into effect almost any time in other Australian States. Most of the American engines now in use in Tasmania are already in compliance with this regulation, but there are a few, however, which have bars much less than 3 inches in width and also farther apart than the regulation specifies.

There is undoubtedly a good opening in Tasmania for American engines, for there is almost general satisfaction with the work of these engines already imported as compared with English engines, which as a rule are heavier, though not so powerful as the American engines. Although English engines have been in use in Tasmania for about twenty-five years and the trade in American engines has not existed for more than half that period, yet the American types appear now to be in better demand than English types, and possibly by paying more particular attention to the requirements of the country American manufacturers could secure the bulk of the trade.

ADAPTATION TO LOCAL CONDITIONS.

About the only trouble complained of in American engines is in the road wheels. The Tasmanian roads are very hilly, for the most part, and owing to the wet climate they all have to be macadamized. As this entails a very heavy expense, the Government only attempts to metal a width of from 10 to 12 feet. As these roads are made higher in the center in order to drain off rain water, the broad-wheeled engines sometimes suffer severely, owing to the strain on the inside edges of the tires, and so for haulage on these roads they may show signs of weakness. A stiff type of wheels for such roads is essential.

As the Tasmanian climate is rather cold in winter and a great deal of winter work is done in connection with pressing straw and cutting chaff, all of which is done in the open air, it is desirable that engines for Tasmania should be lagged, capped, or roofed, as otherwise there is too great a loss of heat if the boiler is exposed directly to the air. In winter the Tasmanian roads are frequently very boggy, when it is necessary that engines should be fitted with winding drums in order to haul their loads through the wet patches and on steep hills.

There is no trade for straw-burning engines in Tasmania, as Tasmanian straw, being especially tough, has a good commercial value, and is largely exported to other Australian States.

The fuel used in Tasmania is chiefly wood, which is very plentiful. Coal, however, can be cheaply procured in some districts, and it is well that engines should be fitted with fire bars, which will serve for either wood or coal.

PORTABLES FOR SAW MILLING.

There are quite a number of small sawmills in Tasmania which use portable steam engines. It is customary to erect rough mills, and, after one or two years running, the timber in the immediate vicinity being exhausted, to move the plant a few miles farther to fresh beds of timber, portable engines being therefore desirable. English engines seem most generally used for this purpose, and of from 8 to 12 horsepower on the English rating. It may be mentioned that with the English method of rating, a cylinder 10 inches in diameter, with a 12-inch stroke and running 125 revolutions per minute, would be classed as 8 horsepower. However, on an American rating, engines of from 16 to 24 horsepower would be the size most in demand. No very large demand for portable engines could be expected here, as there are not many fresh mills being established. On the other hand, the demand for traction engines is increasing, as a great many persons who formerly used portables for farm machinery are now changing these for traction engines, and are frequently selling their portables, already in use, for saw-milling purposes.

There is a general tendency on the part of the farmers to use engines whenever feasible. Some American traction engines are now being used as the draft power in connection with large area plowing. While the demand for traction engines in Tasmania is already fairly good and promises to develop to larger proportions, yet, of course, it is small compared to what the demand is, and may be, on the mainland of Australia, especially for grain harvesting, as there is a general tendency on the part of farmers who formerly harvested the whole of their grain by means of a stripper (which cuts and thrashes the grain by one operation) to now use a reaper and binder for a portion of the grain, which, of course, necessitates the use of a thrashing machine driven by a steam engine. The motive power for new thrashing plants is now invariably steam traction engines.

REAPING MACHINERY FOR INDIA.

ACTIVE DEMAND IN PUNJAB FOR SPECIAL MAKE—ENGLISH ACTIVITY.

A report from Consul Wallace Bond, at Karachi, says that this year promises the advent of a revolution in the agricultural conditions in the vast wheat fields of the Punjab district of northwestern India. He writes:

Heretofore, in spite of the enormous production of grain—the amount of which shipped from Karachi in 1907 exceeded 27,000,000 bushels—agricultural methods in the Punjab have been of the most primitive kind. With the success of the large irrigation colonies and the effective cooperation between the farmers and the officials of the Indian department of agriculture has come the time for modern methods and the certainty of a large demand in the immediate future for modern agricultural implements and machinery. The English manufacturers, keenly alive to the situation and its potentialities, are planning a campaign of education for the Punjab, which, if successful, will result in the shutting out, at least temporarily, of foreign competition. The following clipping from the Civil and Military Gazette of Lahore, the leading newspaper of northwestern India, outlines the plans of the English manufacturers and the Indian government:

MECHANICAL REAPERS.

The "Thistle" reaper which was introduced last year in the Chenab Colony gave excellent results, but, as was to be expected, working experience revealed some details in which it was capable of improvement so as to adapt it to the exact requirements of this country. Mr. Milligan, the deputy director of agriculture, who was in England on three months' privilege leave last summer, was accordingly commissioned to negotiate with some English firms for an improved type of machine and was retained on special duty in England for three weeks for this purpose. A new reaper has now been built by Messrs. Wallace & Sons to Mr. Milligan's specification, and, encouraged by a guarantee of the sale of 20 reapers given by the Punjab government, Messrs. Wallace are sending out 50 machines to Messrs. Volkart, who have taken up the agency for their sale. Each machine will cost 250 rupees ($81.10) at Lyallpur. It is of even simpler construction than the "Thistle." Its draft, too, will be very much lighter, so that any ordinary pair of bullocks should be able to draw it.

In future, orders for reapers should be sent to Messrs. Volkart Brothers at Lyallpur. There is every prospect of a heavy wheat crop and of great scarcity and dearness of labor next April. There should be a rush for the reapers as the wheat harvest approaches, and cultivators realize how costly labor will be. Intending purchasers should, therefore, send in their orders early.

Every assistance will be given to purchasers by the agricultural department. Classes will be held at the Lyallpur agricultural station, where a considerable area of early barley has been sown to permit of practical instruction before the wheat harvest. The staff of the department will also tour during the harvest.

The American consul at Karachi has received an inquiry from an American firm asking what houses in this city would be likely to handle agricultural machinery. It is doubtful at present whether any of the local firms would consent to do more than act as agents, viz, transmit such orders as might come to them and receive a commission on such sales.

If American manufacturers do not wish to lose this territory for all time they must follow the example of their English rivals and send experts into the Punjab at once, in order that a reaper may be devised which will meet the demands of prospective purchasers and which will prove as effective under existing conditions as the English machine promises to be.

CALCUTTA TANK CONTRACT.

LONDON FIRM SECURES ORDER FOR BIG WATER RESERVOIR.

Consul-General William H. Michael makes the following report on the award of the contract for building the elevated water tank for the continual supply of filtered water to Calcutta:

The tender of Clayton, Son & Co., of London, England, at $456,666, or $1,666 less than the only other bid, that of Burn & Co., of Calcutta, was accepted. The American contractors, who were with much difficulty furnished with plans and specifications and drawings, submitted no bids. The tank is to be 15 feet deep by 321 feet square, supported on steel columns 100 feet above the ground level. The tank is to have four compartments, which can be used independently of each other, and will store for use 9,000,000 gallons of water. The amount of filtered water consumed per head daily in Calcutta is estimated at 7.5 gallons during the night hours and 75 gallons during the day. This enormous demand will be met by an "elastic system"—that is, by direct pumping into the mains and by the proposed tank.

FINANCES AND ECONOMICS.

HOME AND FOREIGN PRICES.

AMERICAN PRODUCTS ABROAD—PRICES MAINTAINED FOR STAPLE ARTICLES—QUALITY INSURES SUCCESS.

Special Agent M. H. Davis in the following report, dated Paris, January 30, describes the results of his observations and inquiries in regard to the prices at which products of American factories and mills are sold in Europe:

My observations of the past nine months in Great Britain and various European countries lead to the conclusion that it rarely occurs that American-made goods are sold or retailed on this side at lower prices than the same products are sold in American markets. The wholesale home price plus the freight, incidental expenses, duties, if any, and a small profit make the selling price to the foreign consumer or final buyer. Such is the allegation of the jobber and retailer when inquiry is made and proofs called for. I can supplement and confirm this to some extent by a somewhat general knowledge of prices both abroad and in America.

GROWTH OF TRADE EXTENSION.

Profits are not large to any American manufacturer doing business with foreign buyers. The work of trade extension is only in its infancy. The process of development is necessarily in most lines slow. For Americans to obtain a foothold, the foreign competitor in many instances must be displaced, and to do this old time traditions and trade associations must be overcome. This is particularly true as to staple articles open to the world's competition. It applies especially to shoes, articles of wearing apparel, flour, and other food products, fruits, farm implements of ordinary use, and any other thing not specialized by American exporters. These are making slow but sure progress, largely because of their superior merit, on quality, and in no sense because of cheaper price than similar products of European origin. American staples are not sold abroad because they are cheaper than others. They are placed in stock by foreign buyers, after due introduction, because they possess features of excellence appreciated by consumers seeking the best obtainable.

SUCCESS COMES FROM AMERICAN SUPERIORITY.

American shoes, for instance, may be found in well-appointed retail stores in nearly every city in Europe. Their styles and shapes are copied by British and European manufacturers. Many stores are offering "American styles" of shoes that are not American at all.

Some even descend to labeling inferior and clumsily made affairs "American," for the sake of attracting trade, and to displays of the American flag or other distinctive device, when no product of American factories ever enters the shops. Some form of protection might well be sought to prevent such deceptive practices detrimental to the progress of American goods in the strife for trade. If they did not possess real merit American shoes would not find favor as they have done and expand in volume of trade as they are certainly doing in the face of most determined opposition. Yet prices are well maintained, quite above the parity of foreign makes. Nothing but excellence could bring this result. In Paris the shoe sold in America at $4 per pair must and does bring at least $1 per pair more, because the duty of 2.5 francs per pair (28 cents), together with the duty on the package, freight, and incidental expenses, advertising, etc., makes such addition to the price necessary. That the buyers will pay the premium demanded to the extent of annually increasing the business now established in this and all other cities I have visited gives evidence of such superiority in workmanship as should encourage reasonable governmental support.

MANIPULATION AND SPECULATION.

Some staples, such as flour, being subject to price fluctuations and advances in America due wholly to market manipulations by speculators not in any way allied with flour milling or the production of finished products, may at times be relatively less in price than in America. Wheat and flour in the United States are frequently forced for temporary periods, after farmers have marketed the bulk of their crop, to a higher level than European markets will pay, by organized efforts of grain speculators for obtaining fictitious values. Then our immense milling industry loses for a time its hold on foreign trade. Other nations undersell us. Then American-made flour, contracted for months before on a lower price basis, may possibly be offered by European importers at less than the current and artificial prices prevailing in the United States on the same brands. It is the misfortune, and not the intention nor fault of American millers when such a state of affairs prevails.

INFLUENCE OF VARYING CONDITIONS.

In articles of wearing apparel the conditions vary with the status or trade of the retailer. I have found some goods selling freely at nearly or quite twice their value in the United States, because being good and of high class, and being "foreign made," they had earned a place in the minds of buyers willing to pay fancy prices that encouraged the dealer enjoying the exclusive sale in the vicinity to shrewdly get more than would have been possible at home, where the particular goods were more commonly carried in stock. In other cases, where goods were more generally distributed and in the hands of small retailers, the inherent conditions of such shopkeepers enabled them to sell American or any other make at a minimum of profit. Thus it may appear in rare instances, where no duty exists, that certain articles so handled may retail at about or a trifle below the current American retail price. The conditions under which the shopkeeper lives and does business may enable him to accept as a living profit one-half or one-third the percentage of profit that a corresponding dealer in America would require to maintain the higher standard of equipment, shop display, and standard of living peculiar to the retail business in the growing and progressive cities of the United States. All over Europe and in the United Kingdom much of the retailing of the common articles of life is carried on in the small front rooms of living apartments, all the members of the family contributing their services to the conduct of sales as required. Their possible earnings in any other capacity or occupation would at best be only half that possible in the United States, and it is not to be wondered at if the profits they make on what they sell are on a minimum basis.

The whole process of distribution in Europe favors the final buyer as compared with the United States, for the selling cost, the labor necessary, the commissions incident to sale, and in cases where canal rates are available, as in Germany, the Netherlands, Belgium, and parts of France, the interior transportation, all are on a lower basis. The low salary scale makes plain why so many European young men, having some business experience, possessed of energy and ambition, have sought and obtained positions as salesmen in the United States. After a few years of training they return to their native countries to become the managing representatives of American manufacturers, and thus more effectively push sales of American-made goods than could possibly be otherwise done. They early realized the lower standards of European labor and living and, seeking to improve their own condition, have ultimately become a useful and most valuable means of extending American trade.

SEWING AND TYPEWRITING MACHINES.

Special lines of manufacture, such as of sewing machines and typewriting machines, are very widely represented. The goods are sold in every city, it is safe to say, upon the Continent. There is much evidence that the trade in them is constantly increasing, because they fill a demand not met by any foreign competitors. Various means have been adopted for securing trade. There is no common method followed in the organization of sales departments. The judgment of various concerns seems to differ widely as to the most efficient methods for introducing these special lines. All the leading American typewriting machines seem to have the ground well covered, and several well-known sewing machines of American origin appear to be the leaders in this line in all the larger cities. German-made machines, both for sewing and typewriting, offer the most competition, but they are completely outclassed in point of excellence and durability by those of American make.

The Singer Sewing Machine Company, though generally recognized as an American institution, has its separate and independent selling corporations, organized in and according to the laws of the various countries in which its machines are sold. The American manufacturing company sells no machines in Europe except, as I am informed by a representative of the French company, such special machines, a few in number, as may be required for particular purposes. The ordinary machine for house and shop use is made in Scotland, where a British company bearing the "Singer" name at Glasgow has a factory of large capacity, and is itself independent from the American and other corporations bearing the same name. The Scotch company sells no machines to the trade in general. Sales are made only to the English selling corporation, which in turn supplies the requirements of the French, German, and other selling companies. I forward a catalogue of the French Singer Company showing prices and discounts at which machines are sold. Undoubtedly the labor cost of construction in Scotland is below the corresponding cost in the United States. I have no American catalogue for making price comparisons. A manufacturing Singer company also exists in Russia.

The Remington, Smith-Premier, Yost, Underwood, Oliver, Monarch, and several other typewriting machines of American manufacture, appear to be well intrenched for business. The older and larger concerns occupy in every large city prominent sales offices with executive, operating, and repair departments, much the same as in the United States. Most of these sales departments are branches of the American companies. In the case of the Yost machine the European sales organizations are working under the London company, which is organized under British law, and makes its purchases from the American selling company. The duty, freight, and charges incidental to delivery from America will, in France, amount to about $8 per machine. In Belgium, owing to lower duty and less freight, the charge per machine is figured at about $5. I forward a catalogue of the Smith-Premier obtained at Brussels, also one from the Paris office, together with catalogues showing cash discounts, from the Paris offices of the Remington, Yost, Underwood, Monarch, and Triumph machines.

I also send catalogues of the Aeolian Company (Limited) and of the Brunswick French Company, the latter being the French selling company of the American manufacturing concern—The Brunswick-Balke-Collender Company of Chicago and New York.

TYPEWRITER PRICES.

RATES AT WHICH AMERICAN MACHINES ARE SOLD IN EUROPE.

Special Agent Charles M. Pepper has compiled the following market prices at which American typewriting machines are sold in continental Europe:

GERMANY.

Berlin.—From the quotations for the Remington in the following schedule a discount of 5 per cent is given for cash within thirty days. The Remington rates in Cologne were the same.

	Marks.
Remington No. 7, with cover	460=$109.48
Remington Nos. 9 and 10, with cover	525= 124.95
Smith Premier No. 4, current model	500= 119.00
Smith Premier No. 9, current model	570= 135.66
Smith Premier No. 10, current model	550= 130.90

Until 1907 the German duty on typewriters was 24 marks per 100 kilos (220 pounds). It was raised to 60 marks per 100 kilos, but the typewriter's agents say they do not want these rates changed, as lower duties would not facilitate their business.

BELGIUM.

Brussels.—The following were the quotations here:

	Francs.
Remington No. 7, for spot cash	558=$107.69
Remington No. 7, on time	600= 115.80

FRANCE.

Paris.—From the following prices 5 per cent is deducted for cash. "Cash" seems to be understood as thirty days; an additional discount of 2 per cent is given for cash paid down:

	Francs.
Remington No. 7	600=$115.80
Remington No. 10	675= 130.28

ENGLAND.

The following prices are subject to 5 per cent discount for cash, ten days being construed as cash:

	£	s.	d.
Remington No. 7	22	9	6=$100.35
Remington No. 10	23	0	0= 111.93
Remington No. 11	27	0	0= 131.40
Smith Premier Nos. 3 and 5	23	9	6= 114.21
Smith Premier No. 10 "A"	22	10	6= 109.50
Smith Premier No. 10 "B"	23	5	0= 113.15

SEWING MACHINES.

RETAIL PRICES OF SINGER MAKES IN UNITED KINGDOM.

Writing from London under date of Jaunary 5, 1909, Mr. Pepper furnishes the following information in regard to the sewing machine trade:

The trade of the United Kingdom in Singer sewing machines is supplied from the central factory at Singer, near Glasgow, Scotland. About 12,000 workmen are employed in this factory. The machines are sold through agencies, of which there are about 900 in England, Scotland, and Ireland. The usual sales methods are followed, the machines being sold both for cash and on the installment plan. Long time is given for installment sales, in some cases three years being allowed for the full payment.

The Wheeler & Wilson machines are now included in the Singer price list. Prices are given for the standard family sewing machine, an illustrated catalogue of which is forwarded. These prices are subject to a discount of 20 per cent for cash. The following are the quotations and descriptions of the standard Singer family machines, which can be compared with the illustrated catalogue:

	£	s.
No. 15K	9	5=$45.00
No. 9W, rotary	10	10= 51.00
No. 15K	11	10= 56.00
No. 27K	12	0= 58.40
No. 27K	17	0= 82.75
No. 28K	7	5= 35.25
No. 28K	5	10= 26.75

FISCAL MEASURES.

RUSSIA.

FISCAL PLANS OF GOVERNMENT FOR CURRENT YEAR.

Consul James W. Ragsdale, of St. Petersburg, forwards the proposed budget of the Empire of Russia for 1909, in which the following amounts are requested for the various departments of the Government. These amounts differ materially from the figures previously forwarded by Consul Ragsdale and published in Daily Consular and Trade Reports under date of February 2, 1909:

APPROPRIATIONS REQUESTED.

	Rubles.
Ministry of Imperial Household	16,359,595
Higher Administration of Empire	8,598,909
Holy Synod	31,681,911
Ministry of Interior	156,232,301
Ministry of Finance	455,962,844
Ministry of Justice	72,357,873
Ministry of Foreign Affairs	6,211,014
Ministry of Education	64,027,109
Ministry of Ways of Communication	569,948,251
Ministry of Commerce and Industries	42,001,816
Ministry of Agriculture	71,393,512

	Rubles.
Administration of Studs	2,010,775
Ministry of War	470,623,239
Marine Ministry	88,135,050
Audits	10,031,724
Public debt	396,656,121
Incidentals	10,000,000
Total ordinary expenditures	2,472,232,044
Total extraordinary expenditures	150,263,451
Total amount of budget	2,631,495,495

The estimated revenues of the Empire for 1909 and the sources from which they are derived are shown in the following statement:

ESTIMATED RECEIPTS.

Ordinary revenues.	Rubles.
Direct taxes	191,132,233
Indirect taxes	519,558,200
Duties	133,265,578
Royalties	826,007,400
State property and funds	699,289,168
Expropriation of state property	976,323
Land redemption annuities	570,700
Reimbursement of treasury expenses	92,518,718

Ordinary revenues—Cont'd.	Rubles.
Miscellaneous receipts	13,658,921
Extraordinary revenues.	
Perpetual deposits in state bank	1,700,000
From loans to be contracted	152,818,254
Total	2,631,495,495

NOTE: A ruble equals 51.5 cents.

CANADA.

GOVERNMENT DECLINES TO ACQUIRE AND ADMINISTER PROPERTIES.

Consul-General John Edward Jones, of Winnipeg, transmits the following report upon the government ownership of grain elevators in the Canadian west:

The demand of the government ownership of grain elevators was first made by the executive officer of the Manitoba Grain Growers' Association; his action was later indorsed in the convention of the association which was held in Manitoba, in 1907. The conference, after much consideration, urgently requested by formal resolution that the provincial government acquire and operate a complete system of storage elevators throughout the province; also that the provincial government request changes in grain-inspection laws that would prove beneficial to growers.

The farmers of Saskatchewan and Alberta, who had persistently contended that they were not justly treated by the privately owned elevators, took up the agitation, meeting in numerous conventions, and urged their respective governments to acquire and operate all grain elevators. The matter was injected into the political campaigns and due consideration was paid to the recommendations of the farmers.

The premiers of the provinces of Manitoba, Saskatchewan, and Alberta held several conferences with a view of establishing some governmental policy on the subject. Now they make public their findings in a comprehensive report in which they decline to act in accordance with the wishes of the grain association on the ground that they deem it necessary to secure an absolute monopoly of the grain trade in order to assure the success of such a great governmental undertaking, involving as it would an estimated expenditure of $7,000,000 to $10,000,000. To create such a monopoly would be unconstitutional under the British North America act.

In explaining their position, the premiers state that the consideration of unusually grave and complicated questions, constitutional, financial, and legislative, are involved, and that unless the British North America act is amended to give them the powers alluded to, the innovation of government ownership of elevators might fail and possibly be followed with disastrous results.

MEXICO.

GOVERNMENT REVIEW OF FINANCES AND INDUSTRIAL QUESTIONS.

Minister of Finance Limantour, in sending to the Mexican Congress his estimates for the coming fiscal year, 1909–10, also reviews the country's economic outlook, the following extracts being from the Mexican Herald:

The following is a part of the minister's recapitulation of estimated revenue for the year 1909–10 (the Mexican dollar, worth 49.8 cents, being used):

TAXES ON FOREIGN COMMERCE.	
Import duties	$42,000,000
Export duties	420,000
Sundry port dues	950,000
Transit dues	150,000
Dues for storage and warehousing	65,000
Pilotage dues	22,000
Sanitary dues	112,000
Consular fees	950,000
Other minor imposts	40,000
Total yield of taxes on foreign commerce	44,709,000
PUBLIC SERVICES.	
Earnings of post-office	$4,250,000
Earnings of telegraph lines	2,050,000
Earnings of some government establishments	85,000
Total yield of revenue from public services	6,385,000

INTERIOR TAXES PAYABLE THROUGHOUT THE FEDERATION.	
Stamp revenue: Sale of common stamps	$13,500,000
Federal contribution	6,400,000
Tax on mining property	1,800,000
Internal tax on gold and silver	2,250,000
Tax on tobacco	2,800,000
Tax on alcohol	830,000
Tax on cotton yarn and textiles	2,400,000
Tax on explosives	150,000
Trade-mark and patent dues	45,000
Total yield of the stamp revenue	30,175,000
Other federal internal taxes: Assay, melting, parting, and refining dues	130,000
Total yield of federal internal taxes	30,305,000

No new tax is proposed; nay, the former export duties on henequen and ixtle are eliminated and the tax on the consumption of meat in the federal district is reduced to one-half.

AID TO MINING AND FARMING INTERESTS.

The executive deeply regrets that it is unable to cooperate in other ways toward sustaining the mining industry, which is seriously menaced by the depreciation of silver. It has, indeed, facilitated the acquisition of cheap fuel by initiating legislation permitting the free importation of crude oil to certain mining concerns which, giving employment to thousands of workmen, would otherwise ere this have suspended operations or would be on the eve of suspending them. It has also postponed the approval of certain modifications in freight rates for which the railway companies with considerable justice have been applying, but which might have wrought some hardship to the mining interest. But the executive realizes that these and other measures which aim at benefiting that interest will not afford any appreciable compensation to the majority of mining concerns for the heavy losses arising from the extreme depreciation of metals not found in combination with gold. Perhaps copper and lead will continue to improve slowly but steadily, thanks to the revival of the industries which require large quantities of those metals; but the future of silver is at the present time so uncertain that it would be idle to attempt any forecast as to its course during the coming fiscal year.

As for the influence which our farming industries are likely to exercise on economic conditions, as from July 1 next, I do not see that there is any need to take a despondent view, in spite of adverse factors that may arise. It is true that the unquestioned insufficiency of the last crop and the probable insufficiency of the corn crop will leave to wage-earners only a small available margin of their earnings for other purchases; but it is not to be forgotten that the effects of a good or bad crop are discounted while it is yet standing, and there is fair ground for hoping that in the period comprised between July, 1909, and the end of June, 1910, climatic conditions will not be persistently as unfavorable as they have been of late years. Some benefit is also to be expected from the efforts that are being made to give added impetus to agriculture in its varied forms. A strong current of popular sentiment in favor of husbandry has now set in; and the executive hopes that the creation of the "Institute for Loans to Irrigation Works and for the Encouragement of Agriculture," the liberal grants in money, franchises, and other facilities which the department of fomento offers to agricultural concerns, and, finally, the investigations, experiments, and demonstrations conducted by the Government for the benefit of the farming interest will result in the rapid transformation of our soil, so that it may yield to our own people and to foreign peoples, in ever-increasing abundance, the many and varied products which it is capable of supplying.

BRAZIL.

NEW BUDGET LAW INCLUDES FEATURES OF GENERAL INTEREST.

Chargé d'Affaires Henry L. Janes, of the American embassy at Rio de Janeiro, forwards a copy of the budget law of Brazil for the current year, on which he comments:

This law contains no new features which may be regarded as needing extended special comment. It shows a small increase over the expenditures of last year, and, strictly interpreted, will give rise to about the same deficit that was noted on the face of the preceding budget law. As to this deficit, the Government will probably not use the authorization to expend certain moneys (as in the case of subsidies to agriculture and eleemosynary societies), as happened three years ago, if circumstances indicate that there is to be a considerable decrease in the revenue for the year. The newspapers of the country have shown much solicitude regarding the state of the trade balance of the country for the past year, in view of the fact that almost all the national revenue to meet the heavy expenditures is derived from the customs duties. Statistics for the calendar year 1908 show a decrease of $49,063,596 below the export figures for 1907, and $43,800,826 below those of 1906, while importations of merchandise in 1908 were $24,508,633 less than in 1907, but $11,131,481 over 1906.

The present budgetary law computes the national revenue for the current year at 97,909,636 milreis gold and 286,520,500 milreis paper (gold milreis=54.6 cents; paper milreis=30 cents), and places the expenditures at 75,390,272 milreis gold and 330,352,781 milreis paper, the net deficit thus expected being in American currency, in round numbers, $1,000,000.

For 1909 the revenue provided for by the present law is about $8,000,000 American currency in excess of the estimated state income of 1908. The Government is authorized to spend about $5,500,000 American currency more than was voted for last year.

In the future, gold will be coined free from all charges in the national mint.

The article of greatest interest to the United States is that art. 13 of "Revenue") which permits the President to extend, under article 18 of law No. 1452 of 1905, the privilege of 20 per cent reduction in the import duties to certain articles of American origin.

The Government is authorized to make a study of the revision of the tariff to be submitted to Congress for its approval.

An export tax of 20 per cent is placed on rubber in the Acre, which may continue to be maintained because of the fact that it is almost the only source of revenue to cover the expenses of government of that territory. However, it is provided, in Clause XIII of article 2, that syndicates composed of producers of rubber organized according to federal law may be given reductions in the import duties according to a sliding scale of duties which may fall as low as 14 per cent.

For some time past the Government has been collecting the import duties partly in gold and partly in paper, 35 per cent or 50 per cent of the total to be paid in gold and 50 per cent or 65 per cent being in paper, so long as the value of the milreis did not fall below 14 pence (28 cents) for thirty consecutive days, when only 35 per cent could be collected in gold. The present law, in view of the high point at which exchange has maintained itself for some time, indicates 15 pence (30 cents) as the minimum at which the 50 per cent gold may continue to be collected.

SPECIAL POSTAL STAMPS.

As of general, and perhaps future interest, I beg to refer to item 16 of article 1 by which the Government is authorized to provide special stamps for postal matter for the countries of America, adopting for this foreign correspondence the same rates as for the interior of Brazil. Last year's law only had in view South America, but no steps were taken to carry out the provisions of this part of the law of a year ago, and it is probable that the Government will take no action on the broader provisions of this fiscal year. The Government is again authorized to adhere to the convention for the interchange of parcels and newspapers of the Fourth Universal Postal Congress of Rome and to reorganize the service for this purpose.

The Government is authorized to revise the regulations governing the mérchant marine and the coastwise trade. The contract between the State and the Brazilian-Lloyd is to be revised, extended for six years "without increasing the annual subsidy," and the company is to make further concessions in freight rates.

The sum of 612,000 milreis is appropriated by Congress as a fund of extraordinary expenditure in Brazil for the foreign office, including the expenses incurred through the meeting of international congresses in Rio de Janeiro.

An appropriation is made in order to prepare for the taking of the census in 1910.

The silk industry, manufacturers of xarqui, and agricultural societies are favored by tariff concessions and by subsidies. A special effort is being plainly made to encourage the raising of silkworms in the country by putting a bounty upon the cultivation of mulberry trees, and the sum of 22,500 milreis, or about $6,800 American currency, is to be given to each of the mills which first succeed in weaving silk from national cocoons.

[The complete budget in Portuguese may be consulted at the Bureau of Manufactures.]

SAVINGS' ORGANIZATIONS.

UNITED KINGDOM.

WORKMEN'S CLUBS GATHER FUNDS FOR VARIOUS PURPOSES.

Consul Charles N. Daniels writes from Sheffield that one peculiarity of the English workingmen is the way they patronize saving clubs, of which he gives good local examples:

In Sheffield, as in other places, there are all sorts of agencies to enable people to save up money during the year, and spend it during the festive season. Christmas is the great dividing season of the year. There are clubs of all kinds, ranging from the shop club, to which the workingmen contribute, to the little clubs, run for the purpose of letting school children have a shilling's worth of sweets for a Christmas treat.

There is hardly a workshop of any importance in this city without its workmen's saving club, besides which there are many dividing clubs carried on at public houses, and the deposits amount in the aggregate to a very large sum. The withdrawals begin in the early days of December, and it is estimated that something like £80,000 ($389,280) was drawn from the banks during the two weeks preceding Christmas, for distribution among the workingmen of this city. This sum, although large, was somewhat smaller than usual, the depressed condition of trade having made itself felt upon the finances of the clubs, though not to such an extent as might have been expected. The decrease in the savings of 1908 as compared with that of the previous year is estimated at 10 to 15 per cent.

It is not uncommon for the banks to pay out £300 ($1,460) to £500 ($2,433) to a single club, and the problem of storing the money is one of some difficulty. As the amounts have to be divided among many people they are wanted in cash, and in some cases the proportion of gold, silver, and copper is specified. It is not always an easy matter to get hold of all the copper that is called for.

UNITED STATES.

EXTENT OF SCHOOL CHILDREN'S SAVINGS BANKS.

Secretary J. H. Thiry, of the Long Island City (N. Y.) school board, addresses the Bureau of Manufactures in reference to the recent publication in Consular and Trade Reports of the article on "school savings banks in Belgium." Mr. Thiry states that the system is making steady progress in the United States. He has compiled and published the statistics, which show that on January 1, 1908, the 101 cities which have adopted the system had a record of $759,646 due depositors. Out of 503,078 students attending the schools, 178,817 were depositors. Since the establishment of the first American School Savings Bank on March 16, 1885, up to January 1, 1908, the amounts deposited aggregated $4,419,454, and the amounts withdrawn $3,659,808.

PATENTS AND TRADE-MARKS.

FRANCE.

A MORE RESTRICTIVE COMPULSORY WORKING CLAUSE.

The following regarding a proposed change in the French patent law, which now provides for cancelling a patent not worked in France, is from the London Commercial Intelligence:

> The French Government, following the example of our own and other countries, has introduced a bill to amend the patent law of the country in order to insure the adequate working of foreign patents in France. The Paris correspondent of the Times thus translates the principal provision of the bill: "Patent rights shall be held to lapse in the event of failure on the part of the holder either to exercise his right in France or in the French colonies for a period of three years after applying for his certificate, or to resume exercise of after a similar interval; or, secondly, in the event of only partial exercise of the patent in French territory. In the second event the patent courts will be invested with discretionary power to call upon the holder of the patent to show cause why he should not exercise his rights in French territory 'in an adequate degree.'"

UNITED KINGDOM.

NEW ACT FORCING THE MANUFACTURE OF EXTENSIVE LINES OF GOODS.

Consul Albert Halstead, of Birmingham, has made a number of inquiries as to the effect upon Birmingham industries of the new British patents and designs act of 1907, which requires foreign patents, if they are to be protected by British patent laws, to be worked wholly or adequately in the United Kingdom. The consul writes:

I have heard it said that many foreign manufacturers, including Americans, were establishing factories in the United Kingdom, or licensing British manufacturers to manufacture patents for them under their patent rights, but have not learned of any Americans locating in this consular district. From inquiries made of me by owners of factory property it would seem that there were plenty of factories that British owners wished to sell or lease to American manufacturers at a good round price.

While there appears to have been no establishment of American factories in this section of England since the act became effective, I learn that a number of British firms are working American patents under royalties. One Birmingham jewelry firm is busy making an American specialty that requires electroplating, whereas most of the Birmingham jewelers are complaining of slack times, and another firm has laid down a special plant to manufacture a certain galvanized-iron article that has not previously been made in England, but is in general use in the United States.

BENEFIT TO BRITISH INDUSTRY.

I am also told that other Birmingham firms are profiting through working American patents for American manufacturers, but British manufacturers benefiting from the new British law, and making American patented articles under license, are not disposed to discuss the matter or to advertise their success.

Birmingham manufacturers themselves are not encouraging the establishment of new factories by Americans or other foreigners, because such factories would ultimately compete in other lines as well as in those for which they were especially established, but are encouraging Americans to sell them their patent rights, or to authorize their manufacture under royalties.

Taking the United Kingdom as an entirety, it would seem that the number of American manufacturers who have protected themselves by complying with the provisions of the law is very considerable, and represents a large amount of work taken from American workmen; but there must be a far greater number who have overlooked the importance of so doing, and who are thus risking the forfeiture of their patents and the manufacture of their articles in the United Kingdom by British firms and without compensation, even though their articles have not as yet been introduced into this market, because the British manufacturers are very well contented with the new law and are watching keenly for all such opportunities.

JAPAN.

DEALERS MUST TAKE OUT LICENSES—FINED FOR VIOLATIONS.

Vice-Consul-General E. G. Babbitt, of Yokohama, has forwarded the regulations governing the sale of patent medicines in Japan, from which the following extracts are taken:

Makers and venders of patent medicines in Japan must have licenses granting such privileges, and if it is desired to change the formula for making a medicine, or the description of its uses and virtues, new licenses must be secured. In case any medicine produces evil results the license permitting its manufacture or sale, if imported, may be revoked. A dealer is required to pay a semiannual duty of $1, and 10 cents for a license. Before granting a license the authorities ascertain whether or not the poisonous ingredients contained in the medicines would be injurious to purchasers. Fines are provided for dealers who violate the stipulations contained in the license.

[The addresses of the leading druggists of Yokohama are on file in the Bureau of Manufactures; also the full text of the law regulating the sale of patent medicines.]

CUBA.

THE LAW AMENDED MATERIALLY ALTERING REQUIREMENTS.

Minister Edwin V. Morgan, of Habana, forwards a clipping from the Cuban Official Gazette containing a decree from the provisional governor amending the trade-mark laws hitherto in force in that island by the addition of the following clause to article 5:

> Provided that any manufacturer, merchant, or agriculturists may use his own name, either individually or as a part of the name of any firm or corporation of which he may be a member or in which he may have an interest and assist in forming, upon or as a part of any trade-mark, sign or label, if its arrangement with relation to the device used as the distinctive feature of the same does not produce such similarity or likeness to some other trade-mark already registered and in force as to lead to confusion or error.

Article 2 reads:

> That all persons whose applications for registration of trade-mark have heretofore been denied upon the principal ground of the similarity of their own names used in connection therewith to the names appearing upon other trade-marks, may, upon application, have their cases reopened and the petitions granted, provided the marks sought for are not otherwise in conflict with any registered trade-mark in force.

ARGENTINA.

BUENOS PAPER CALLS ATTENTION TO DIFFICULTIES INVOLVED.

Relative to his previous recommendations that manufacturers register their trade-marks in Argentina before attempting to do business, Consul-General Alban G. Snyder, of Buenos Aires, quotes an article from the Times of Argentina on this subject:

> The patent law in Argentina is decidedly deficient. The requisite procedure is to register a trade-mark, or rather a label, of a given article and then no one else can sell goods under that label. This has given rise to a national industry which is assuming grave proportions. Various men make it their business to register the labels of foreign scents, pills, etc., and when the real stuff is imported the individual holding the fictitious label comes down upon the real importer for selling goods under his own label. Thus we find that people buy legal imitations, that is inferior stuff, under superior labels, and when the real stuff is imported it is immediately pounced upon and declared to be imitation of the imitation, the importers of same being heavily fined for using the real label. It has become quite a business to register well-known foreign trade-marks and then when the goods are imported for the importer to be approached as to what price he offers to purchase his own label.
>
> Not long ago an Argentine inventor wished to patent a certain article and he chose a running fox for his trade-mark and label. On wishing to register this, however, he found that one individual had registered 80 foxes in different positions, and he was referred to this man if he wished to register his choice. What, in the name of fortune, can one man want with 80 trade-marks, if it is not to squeeze money out of later comers? The industry is very similar to that of the railway concessionaire, which type of individual has done so much to delay the progress of the country. By procuring and holding valuable concessions in the best part of the country, without dreaming of construction, these men have imposed on the serious railway companies and prevented them from expanding as they should, unless on payment of large sums in order to purchase these concessions. Congress has been able to put a stop to this business by enforcing guarantees for construction within certain periods, and it is time some steps were taken to break up the other pernicious industry with regard to registration of labels, which is at present of great harm and serious inconvenience to legitimate trade interests.

USE OF HOMING PIGEONS.

VALUABLE SERVICE PERFORMED ON THE AUSTRALIAN COAST.

Consul Henry D. Baker, of Hobart, makes the following report on the utilization of pigeons in Australia for carrying messages:

An experiment of using homing pigeons for regular communication and emergency service between Hobart and Maatsuyker Island light-house, about 75 miles southwest of Hobart, is meeting with signal success, and was the means in November of probably saving the life of an assistant at the light-house, who was able, sixteen hours after sending for a doctor by pigeon post, to obtain needed medical relief.

The pigeon-post service with this light-house was established by the marine board of Hobart on January 21, 1908. The first message, which was dispatched from the light-house at 10 a. m., was received in Hobart at 1.30 p. m. Since that time three birds have been liberated with messages every three weeks, it being also understood that if accident or serious illness occurred three additional birds were to be set free. Twelve birds in all are used for the service. While messages have not always reached their destination safely, generally speaking the service has been thoroughly satisfactory. At the present time the messages are written on a piece of paper tied under the bird's wing; but the marine board has in view some celluloid cases which may be adjusted under the bird's wing and in which a good deal of information might be written upon "flimsies." A piece of paper is forwarded (and filed with the Bureau of Manufactures) on which was written the message, "Medical aid urgent," which was the means of immediately dispatching a doctor from Hobart to the light-house. The birds are fed on gray peas of good quality, given plenty of grit and fresh water, and kept thoroughly clean. They are also allowed at their station plenty of opportunity for needful exercise. Maatsuyker Island light-house is very isolated. It is situated 75 miles in a direct line from Hobart, and by steamer 90 miles. That this light-house was able to secure a doctor from Hobart sixteen hours after one had been sent for by pigeon post suggests important possibilities for more general use of pigeons for such service. [A newspaper extract with relation to the possible use of pigeons in Australia for military purposes, also forwarded by the consul, states that the minister of defense, at Melbourne, has decided to take the first step by placing a sum on the estimates for the purpose of providing trophies for homing competitions, so as to encourage owners to breed the very best descriptions of carriers. He states that there are 20,000 of these birds in the Commonwealth.]

IMPROVEMENT OF MAILS.

FRANCE.

LETTER TELEGRAMS MAY BE SENT CHEAPLY.

Consul-General Horace Lee Washington, of Marseille, advises that after some delay in the date first understood an innovation in the French postal service was inaugurated on December 7, when from certain offices in France and Corsica, letter telegrams paid in advance were transmitted by wire during the night at the rate of 1 centime (⅕ of a cent) the word. No messages are forwarded at a charge of less than 50 centimes (10 cents). The messages are sent out as mail matter by the early deliveries: He says:

Although messages are only forwarded during the night after 9 o'clock, they may be deposited after 7 in the evening, and at the designated offices, which are open until midnight, up to 11 o'clock. They are received up to midnight at offices which are open all night. The following cities will have the service until midnight: Paris, Bordeaux, Boulogne-sur-Mer, Brest, Calais, Cherbourg, Le Havre, Lille, Lyon, Marseille, Montpellier, Nancy, Nice, Roubaix, Toulouse, and Tourcoing, the principal offices of which are open until midnight, and at the minor offices until 11 o'clock.

The following cities will have the service only until 11 o'clock: Agen, Aix-en-Provence, Ajaccio, Amiens, Angers, Arras, Avignon, Bastia, Bayonne, Besançon, Béziers, Biarritz, Boulogne-sur-Seine, Caen, Cambrai, Cannes, Carcassonne, Cette, Châlons-sur-Marne, Clermont-Ferrand, Dijon, Dieppe, Douai, Dunkerque, Elbeuf, Grenoble, Laval, Levallois-Perret, Limoges, Lorient, Mâcon, Le Mans, Montauban, Montecarlo, Nantes, Narbonne, Neuilly-sur-Seine, Nîmes, Orléans, Pau, Perpignan, Rheims, Rennes, Rochefort, Rouen, Saint-Etienne, Saint Nazaire, Saint Quentin, Toulon, Tours, Troyes, Valence, Valenciennes, and Versailles.

The letter telegram is an experiment, and its continuation will depend upon the extent the public avails itself of this opportunity. Considering the low rate provided, and the immense convenience to business interests that admits of lengthy messages being sent at the close of a business day and received early the morning following at points two or more days distant perhaps by ordinary mail facilities, as is the case when letters are sent from Corsica to Paris, and twenty hours when sent from the southeastern section to the capital.

Between cities not on a main line connection much practical convenience will result, since the length of time required by ordinary postal service across even comparatively small distances in France not directly connected is often too great to admit of a letter mailed at night reaching its destination on the morning of the following day. It is estimated that an appreciable portion of the patronage will come in this way. The interest demonstrated generally by business men and their impatience at the delay that followed the first official intimation as to the date of the inauguration of this experiment indicate that there is every prospect of financial return that will warrant this method being decreed a permanent service.

SUCCESS OF THE INNOVATION.

The under-secretary of the posts and telegraphs has published the following statistics of the use made of this service from its inauguration to December 31, which indicate a patronage that promises that the service will be made a permanent one:

Number of letters-telegram	6,657
Number of words in above	353,414
Average of words in each letter-telegram	55

GERMANY.

GROWTH IN NUMBER OF UNDELIVERABLE PIECES OF MAIL.

Consul Will L. Lowrie, of Erfurt, has compiled the following figures relating to the dead-letter department of the German imperial post-office:

Official statistics show that during the year 1907 an average of 10,000 pieces of mail matter were sent each day to the dead-letter departments of the 41 main postal divisions of Germany. Of each million pieces of mail handled by the imperial post in 1904, an average of 327 were destroyed as worthless and undeliverable. In 1907 the number grew to 396 pieces, an increase of 21.7 per cent. About 52 per cent of the 10,000 parcels daily admitted to the "hospital" afforded no clew to the identity of the writer or of the person for whom intended, and were burned. The rate in 1875 was only 21.6 per cent.

Comment is made in the German newspapers on the growth of the number of undeliverable pieces of mail matter, despite the spread of education and the decrease of illiteracy. It is noted that, on the average, only one recruit to the army can neither read nor write.

One reason assigned for the increase in the dead-letter totals is that Germany's rapid commercial development has attracted many immigrants (Prussia alone had 406,000 foreigners in 1905) who have little or no schooling. Most of the letters sent to the dead-letter departments have no city, village, or town indicated, or have only the first name of the party to whom they are addressed. Postal cards of the picture kind are responsible for the bulk of the nondeliveries. In 1907 they furnished about 75 per cent, or exactly 1,480,400, of the 1,978,250 cases unsolved by the dead-letter experts.

BRITISH C. O. D. SERVICE.

NONPARTICIPATION BY INDIA—COUNTRIES NOW IN LIST.

The Indian (government) Trade Journal states that the following "press communique" has been issued by the commerce and industry department at Calcutta:

"The government of India have informed His Majesty's secretary of state that they do not wish to participate in the scheme initiated by the British post-office for the establishment of an exchange between the United Kingdom and British possessions of packets and parcels to be paid for on delivery."

With reference to the above the following list of countries with which the c. o. d. arrangement is now in force is given in the "British Post-Office Guide" for January:

Bahama Islands (Nassau only).[a]
Bermuda.
Cayman Islands.[c,a]
Cyprus.
Egypt.[d]
Fiji Islands.[c,a]
Gambia.
Gibraltar.[a]
Gold Coast.[e]
Grenada.
Jamaica.[c]
Leeward Islands:
    [Antigua, Dominica, Montserrat, Nevis, St. Kitts, Tortola (Virgin Islands).]
Malta.
Morocco: Tangier.[a,b]
Nyasaland Protectorate.[a]
St. Lucia.
St. Vincent (West Indies).
Somaliland (British).[a]
Southern Nigeria (Lagos, Calabar, and Warri only).
Straits Settlements.
Trinidad.
Turkey:
    Beirut.[a,d]
    Constantinople.[a,d]
    Salonica.[a,d]
    Smyrna.[a,d]

[a] Insured letters bearing trade charges are not admissible.
[b] The service at these places extends to the British post-offices only.
[c] Insured parcels bearing trade charges are not admissible.
[d] Registered packets bearing trade charges are not admissible.
[e] Service limited to Accra, Axim, Cape Coast, Kumasi, Obuasi, Sekondi, and Tarkwa.

The miximum amount of trade charge is £20 ($97.33) in every case, except as regards the Gold Coast, the maximum for which is £10 ($48.65).

BUDAPEST NEWS-TELEPHONE.

VARIED SERVICE PERFORMED BY A PRIVATE CONCERN IN HUNGARY.

In reply to a Missouri inquiry in regard to the Budapest news-telephone system, Consul-General Paul Nash writes as follows:

This system, which has been in successful operation in the capital of Hungary for several years past, is owned and managed by a private corporation, whereas the regular telephone system is owned by the Government and administered by the ministry of posts and telegraphs. The annual subscription, $7.31, paid quarterly in advance, entitles the subscriber to two receivers and the full service of news, music, etc., the subscriber to pay the expenses of installation and removal, generally about $8.50. The service begins at 8.55 a. m., when a buzzing noise, loud enough to be heard across a large room and lasting for fifteen seconds, announces the correct time. At 9.30 the day's programme of important events is announced; that is to say, the ceremonies, lectures, plays, races, etc. At 10 and 11 o'clock stock quotations and general news items are given.

At noon comes a second announcement of the correct time, followed by parliamentary news and general items of interest. At 12.45 stock quotations from the local, Vienna, and Berlin exchanges and general news. At 2 o'clock more parliamentary and general news, and at 3 p. m. the closing prices of stocks, meteorological forecast, local personals and small items, and in winter the condition of the various skating places. At 4 p. m. court and miscellaneous news. From 4.30 to 6.30 military music from one of the great cafes or gardens. In the evening the subscriber may choose between the royal opera or one of the theaters, and later music by one of the tzigane orchestras.

This programme is sufficiently varied to satisfy the desires of all classes of subscribers, and in general the service seems to give the utmost satisfaction. Its advantages are so manifest that no comment appears necessary.

IMPROVED VOTING SYSTEM.

AUSTRALIAN ADAPTATION OF A PLAN DEVISED BY AN ENGLISHMAN.

Consul Henry D. Baker, of Hobart, reports that a system of voting, known as the "Hare-Clark system," is to be put into effect throughout Tasmania at the next general election, which is to occur in March, for members of Parliament. Anticipating an interest in the United States in this new system, the consul thus describes it:

As Tasmania was the original home of the Australian system of balloting, known locally as the "block system," it is interesting to note that it is proposed to make a most important change. What is known as the "Hare system" was originated by Thomas Hare, esq., barrister at law, England, his work on the subject being entitled "The Election of Representatives, Parliamentary and Municipal." The system was considerably improved upon by the late Andrew Inglis Clark, puisne judge of Tasmania. It was in the form as amended by Judge Clark that this new system of "proportional representation" was first introduced into the cities of Hobart and Launceston in 1896, this being the first change in the ordinary block system of voting, which had been in operation in Tasmania for the whole State since the year 1817.

USEFUL ONLY TO LARGE CONSTITUENCIES.

The new system was brought into use into these two cities in consequence of the frequent failure of the block system to secure a proportionate representation of the preponderating opinions of voters on political questions, and also to guard against the return of candidates by a minority of the total number of recorded votes, owing to the splitting of the votes by two or more candidates holding similar political views. The new system, however, did not seem to prove very popular in these two cities, probably because the constituencies were too small to make it worth while for so much elaborate pains to be taken for proportionate representation of different parties and factions in parliament. It is generally conceded now by the advocates of the new system in Tasmania that it can be useful only for large voting constituencies.

In 1901 the block system was again resorted to for Hobart and Launceston, and for six years there was no attempt at retrial of the

Hare-Clark system. A year ago, however, the Parliament of Tasmania passed a new electoral act, applying the Hare-Clark system in a still further improved form to the whole of the State, except in cases where only one member has to be elected, when what is known as the "absolute-majority" principle is applied. The State was divided into five large electoral districts, each district to return six members for the House of Assembly of the Tasmanian Parliament. For the election of members to represent Tasmania in the commonwealth Parliament, both for the House of Representatives and the Senate, the State as a whole forms one electorate.

MORE EXTENDED REPRESENTATION.

The result of elections under this new system is expected to correspond with the differences of opinion among the voters, and although if a majority of voters have strong political views and voice them at the polls they will get a majority of seats, yet no body of voters having other views will fail to secure some representation if their collective votes equal what is known as a "quota," which is the number of votes which is legally necessary to secure the election of a candidate. For a full explanation and illustrations of this system as dealing with districts where more than one member is to be returned, I would make reference to a pamphlet which has just been issued by P. C. Douglas, esq., under secretary and chief electoral officer for Tasmania, on the "Hare-Clarke system of election," [a copy of which is on file for public reference at the Bureau of Manufactures].

In the United States the feature of this new system which might prove most applicable and useful would be that embraced in the "absolute-majority" principle, where only one person is to be elected. It might be possible to introduce this system in elections for mayors of cities, for aldermen to represent different wards, for members of state legislatures, for state governors and for Congress. By the new electoral act of Tasmania the candidate who receives an "absolute majority" of the total number of valid votes is declared to be elected, and by an "absolute majority" is meant a "number greater than one-half of the whole number of ballot papers, and in the event of two candidates having an equality of votes in the final count the casting vote of the returning officer decides which candidate shall be elected."

PRACTICAL EXAMPLE—ORDER OF PREFERENCE.

Where only two candidates are nominated the voter is required to place the number 1 opposite the name of the candidate he likes best, and the candidate obtaining the majority of such votes is declared elected. For example, let it be assumed that there are 5,000 valid votes distributed as follows:

A	2,700
B	2,300

A having a greater number than one-half of the whole number of ballot papers is declared elected.

Where there are more than two candidates the voter gives contingent votes for at least two of the candidates besides his first choice by placing within the squares, respectively, opposite their names, the numbers 2 and 3, so as to indicate the order of his preference. After the close of the poll the presiding officer at each polling place counts the number of first choices recorded for each candidate and telegraphs the result to the returning officer and then forwards the ballot papers to the returning officer in sealed parcels, who then counts the votes and declares elected the candidate having an "absolute majority" of votes, which means a number greater than one-half of the total number of ballot papers.

If no candidate has an absolute majority the candidate who has the fewest votes is excluded and each ballot paper counted to him is counted to the unexcluded candidate next in the order of the voters' preference. If no candidate then has an "absolute majority "of votes the process of excluding the candidate who has the fewest votes and counting each of his ballot papers to the unexcluded candidate next in the order of the voters' preference is repeated until one candidate has an "absolute majority" of votes.

By way of illustration, assume that there are four candidates and 5,000 valid ballot papers, the first-choice votes being distributed as follows:

Count 1:

A	2,000
B	1,500
C	1,000
D	500

D being the lowest candidate is excluded and his ballot papers are distributed among the other candidates according to the No. 2 votes, 300 of which are in favor of C and 200 go to A. The totals now stand:

Count 2:

A	2,200
B	1,500
C	1,300

No candidate having yet obtained an "absolute majority" of votes, the lowest of the three remaining candidates is excluded, and on distributing his ballot papers according to the No. 2 (or next available) choices, 600 are credited to A and 700 to B, the totals now being:

Count 3:

A	2,800
B	2,200

A having now obtained an "absolute majority" of votes (i. e., more than one-half of the whole number of valid ballot papers—5,000) is declared elected.

It will be readily seen that this proportional system of electing candidates on the "absolute majority" principle has many advantages, especially in districts where there may be more than two candidates in the field and where the division of votes for candidates to fill the one position is fairly evenly divided. Frequently the results of elections would be entirely changed if the second and third preferences of voters were given consideration in the count. The Hare-Clark system as adopted for Tasmania should enable every person to be able to vote for candidates in the order of his preference and without risk of his vote being thrown away.

TAXATION IN HOLLAND.

THE WEALTHY MADE TO PAY HIGHER RATE OF TAX THAN THE POOR.

Consul Henry H. Morgan, of Amsterdam, gives a detailed account of personal taxes levied in the Netherlands, from which the following is taken:

There are five kinds of personal taxes levied in Holland, as follows: Government tax, including business and income tax, and capital tax; city income tax and provincial tax.

National tax is levied on amounts paid for house rent, on stoves and fireplaces, furniture, servants, horses, and bicycles. For the levy of the tax on house rent, cities are placed according to population into nine classes, and rates are varied according to amount of rent paid in each class. The rates on stoves vary in accordance with the number of stoves in a single house, and in the tax on furniture there are 20 different rates determined by the value of the furniture owned by one person. On servants the rates vary on account of age, sex, and number of servants in a household. On horses the annual tax is $10 for one animal, $24 for two, $42 for three, and $20 for each horse over that number. A bicycle is taxed 80 cents.

Provincial and city taxes are determined by the levy of a certain per cent of the total national taxes. The business and income tax vary according to amounts. In every case the rates are graded so as to make the burden fall reaviest on those who have most property or income.

THE SYSTEM ILLUSTRATED.

To illustrate the foregoing, the following bill of taxes is given of a man having a capital of $10,000 and an income of $2,000 from business:

CLASSIFICATION.			Amount.
City income tax:			
Income from business	$2,000		
Income from interest	400		
		$2,400	
On which 5¼ per cent is to be paid as tax			$126.00
Government tax:			
House rent, $320.			
Reduction, $320 less $44=$276, at 8 per cent		22.08	
Six fireplaces		6.00	
Furniture valued at $800		11.40	
		39.48	
Less 2 per cent on each child (2 children)		1.58	
		37.90	
Two servants above 21 years		6.80	
One horse		10.00	
One bicycle		.80	
Total		55.50	
To be added, 9 per cent for the province and 120 per cent for the city		71.60	
			127.10
Government tax on business and other incomes:			
Income $2,400, of which $2,000 is from business and $400 from interest on capital—			
Of the $2,000 business income up to $600		5.60	
For each $40 additional, $0.80		28.00	
Of the $400 interest on capital		4.70	
			38.30
Capital tax on $10,000:			
For first $6,000		1.60	
For each following $400, $0.50		5.00	
			6.60
Total			298.00

It will be seen from the foregoing that a Hollander pays about 12 per cent per annum on his income.

EDUCATIONAL PROGRESS.

SCHOOLS AND FURNITURE.

MEXICO.

SCHOOLS UNDER STATE REGULATIONS DOING EXCELLENT WORK.

Consul Lewis A. Martin, of Chihuahua, tells about the stress laid by the Mexican people upon the importance of the education of the masses and of the good work being done in that consular district by the pupils of the public and private schools. His report follows:

It is interesting to note the enthusiasm manifested by the Mexican people in educational work. The governor of Chihuahua, Hon. Enrique C. Creel, is active in the work for the education of the masses, and his efforts have had abundant success. New schoolhouses are being erected and provided with all modern appliances for educational work. The schools of the State are under the supervision of the governor, director-general, with directors and inspectors. The Mexican children seem to be anxious for advancement and work with enthusiasm. At an exhibition in the opera house in Chihuahua, where the governor was present and bestowed badges and medals, the pupils showed thorough preparation and efficiency in their work.

Every school, whether public or private, must be conducted as provided by law. Even children taught by a governess in a private family are subject to the statute and to examination by the board of examiners, the same as pupils in regular educational institutions.

PUBLIC SCHOOLS IN THE STATE.

There are in this State 220 public schools, which are maintained and financed by the State. The enrollment in these schools is 19,000. Of this number, according to the latest detailed report obtainable, 56 per cent are males and 44 per cent are females. The total number of teachers employed is about 400, and the total annual disbursement for the maintenance of schools was for the year 1907 $219,000 gold, drawn from the general state fund. The expenditure for this purpose will probably be greater for the year 1908. Aside from the primary and ordinary grades, are the following: State Agricultural College, whose course is completed in four years; State Normal School, for the preparation and education of teachers, whose course is six years; State College of Jurisprudence, also with a six-year course; School of Arts, in which boys are instructed in the art of trades or mechanics; and a Scientific and Literary Institute, which gives a six-year course and corresponds to the state colleges of the United States.

It would be well to add that teachers in these schools are graded and rated according to merit, and the amount of compensation runs all the way from $15 to $50 per month. They do faithful and efficient work. The regular school hours for the first year are four and one-half hours daily; for the second year, five hours; for the third year, five and one-half hours; and for the fourth year, six hours.

SUBJECTS TAUGHT, COMPULSORY ATTENDANCE, DISCIPLINE, ETC.

In addition to the primary studies, such as orthography, reading, and writing, the following studies are required: Geography, arithmetic, history, geometry, chemistry, mineralogy, political economy, stenography and typewriting, physics, hygiene, Spanish, English, French, agriculture, and drawing.

The school year extends over ten months, and they teach five days in each week. Every child 6 years old or over is obliged under the law to attend school and to take the regular course. There seems to be a purpose on the part of the authorities to insist upon the higher and better education of the masses of the people.

Corporal punishment is not permitted in the schools of Mexico, and it is forbidden by the statute in the State of Chihuahua. If pupils are disobedient and difficult to manage, teachers punish in various ways, for instance, by undesirable marks on examination papers; by detention after school hours; by extra tasks to be worked out either in school or at home; and, finally, by suspension or expulsion.

NONOFFICIAL OR PRIVATE SCHOOLS.

There are a number of private schools in the city and State of Chihuahua and two incorporated institutions. The most important of these institutions of learning is the Colegio Palmore, which is controlled by a Protestant denomination. This school has been working here for many years and is doing splendid work. The Colegio Palmore teaches all the grades from the primary to the academic course, and has an enrollment of over 400, about equally divided between the sexes. The great majority of the pupils attending this school are Mexican children. The other incorporated institution is the Anexa al Seminario, with an enrollment of 97 pupils.

There are some 10 private schools in this State, most of which are under the direction of the Catholic Church. All of these schools have an average attendance of about 80. Among these 10 private schools is one German school in the city of Chihuahua, and also one recently instituted by an American church. This latter denomination completed a large and commodious building in 1907, which the school now occupies.

[Views showing various schools of Chihuahua are on file in the Bureau of Manufactures.]

SALTILLO.

SCHOOLS OF STATE OF COAHUILA ARE PROGRESSIVE.

Consul Thomas W. Voetter, of Saltillo, gives the following outline of the school system of the Mexican State of Coahuila and suggests that American manufacturers are able to secure their part of the trade in school furniture:

There is in the State of Coahuila a public-school system under the control of the state government. The director-general of public instruction has his office at Saltillo, which is the educational, as well as the political, financial, and social center of this State. Here is located the State Normal School, coeducational, which will soon move into a large and imposing building now being constructed for it.

The material is stone, brick, and steel, and the furnishing and equipment will be modern in every particular. In addition to the other courses, the curriculum in the new building will include instruction in kindergarten work and domestic science.

Here is also the Juan Antonio de la Fuente School, a state institution for boys, which gives an extended course in the classics and sciences preparatory to the universities of the Republic.

Besides these two government schools there is the College of San Juan, for boys, which has a large patronage drawn from a territory not confined by any means to the limits of the State of Coahuila.

CENTRAL AUTHORITY APPROVES PURCHASE OF SCHOOL FURNITURE.

The other schools in the state system are for primary education and are located in the cities, villages, and haciendas throughout the State. These are under the technical control of the director-general in all matters that relate to the course of instruction, text-books used, etc., while all purchases of school materials, while paid for from the funds of the various municipalities, must first be approved as to quantity, character, and style by the central authority. To have school furniture placed on the list of articles which are permitted to be purchased by the local authorities it is necessary first to satisfy the director-general, Mr. Andres Osuna, at Saltillo, that it is of proper quality and style and that the prices will be such that it would be to the interest of State or municipality to purchase that line of goods. The best method of introducing goods would be to send a representative to Saltillo with samples.

The desks for the several schools are not purchased at one time, but as needed. The schools under government supervision in Coahuila purchase from 500 to 600 desks per year. This rate of purchase is not likely to diminish, as much interest is being manifested in education, the number of pupils is increasing annually, and better equipment is being purchased constantly by localities where the present equipment is not up to the standard desired by the state authorities.

LOCAL MANUFACTURERS COMPETING FOR TRADE.

The patterns of desks now being bought conform to the American type. There are also foundries at Torreon, Coahuila; Monterey, Nuevo Leon, and San Luis Potosi, of that state, which make castings for desks. Thus American manufacturers will find some competition, but considering that their goods ought to be of higher quality I have no doubt that they may consider this field a good one. When sending a representative here, he should be prepared to quote what the prices will be laid down at the various points of the State. A little time spent in advance in calculations of this class will be found to have been well spent.

VERACRUZ.

PEOPLE ARE WELL PROVIDED WITH SCHOOLS—PRIMITIVE FURNITURE.

Consul William W. Canada, writing from Veracruz, describes the school system of the State of Veracruz and calls attention to the pride taken by Mexicans in educational matters, and the consequent good field in which to build up a trade in school furniture. He says:

The population of the State of Veracruz may be approximately put down at 1,300,000. Every settlement, village, town, and city is provided with private and public educational institutions for the elementary education of the people. In the larger cities instruction is also given in the higher grades, and at the capital of this State there is a normal school which has furnished many of the best teachers in this Republic.

The school furniture, with some exceptions perhaps, in this district is not up-to-date. The kind in use is made in the most primitive fashion of yellow-pine boards by local carpenters. There are private schools for young children where the pupils are required to bring their own chairs or stools with them to school; desks there are none. The teacher is usually a woman, who takes up this work at home in addition to her household duties as an additional small source of income. There are many of these private schools, but they can not be taken into consideration as possible buyers.

PECULIARITIES OF SCHOOLS.

The public schools are conducted on different lines. There are primary and what may be called grammar schools for both sexes, independent of each other. In addition to their other studies, girls are taught to sew and embroider. The school furniture is of the kind already described. Even the preparatory school for young men at Veracruz is furnished in the same manner. An exception to this rule is the Escuela Naval-Militar at this port, where some suitable, modern furniture is in use. This institution is maintained by the Federal Government.

School furniture in this part of Mexico is very deficient; in fact, the advantages possessed by other sections of the country are not even known. If up-to-date furniture could be introduced, even in a small way, it would not be long before the introduction would result in a general adoption throughout this district.

As a matter of fact, the Government has always taken great pride in its educational institutions, and may perhaps be induced to make additional improvements. An earnest effort in this direction ought to produce satisfactory results to our manufacturers. Circulars and catalogues have their uses, but a representative on the grounds, supplied with samples and possessing the necessary address and a good command of the language, would accomplish much more. In all cases the authorities are to be consulted; for state and county schools the governor should be seen; for municipal schools, the alcalde.

BRAZIL.

A PROMISING FIELD FOR MANUFACTURERS OF SCHOOL FURNITURE.

Consul-General George E. Anderson, writing from Rio de Janeiro, calls attention to the increasing interest taken in educational matters in Brazil and to the possibility of creating a good market in that country for American school desks. Following is his report:

The manufacturers of school furniture in the United States are not giving as much attention to Brazil as a field for the sale of their goods as the field merits. Some American furniture is being sold here at the present time, but it is trade which has resulted from the initiative of the school authorities in a number of Brazilian States, who are anxious to establish their schools upon a modern basis rather than the result of any effort on the part of the manufacturers concerned. In several of the States, notably in Minas Geraes, São Paulo, and in the Federal District, the example of several schools established by missionaries along American lines has been followed in the matter of school furniture, and several orders have been placed through missionaries rather than through business men. Such business, however, is naturally precarious and represents but a small portion of what could be accomplished in Brazil.

The proportion of private schools, as differentiated from schools of a public system, is unusually large. In the Federal District and in some other Brazilian districts the public schools are organized upon a basis similar to private schools; an ordinary residence is rented for a school, a teacher is installed therein, and the pupils of the vicinity attend as they would a country school in the United States. The furniture in use is generally plain benches with various sorts of seats, sometimes benches and sometimes chairs. The furniture is unsatisfactory to those responsible for its use, but the temporary nature of such school establishments, the expense of improved equipment, and general conditions have prevented any material change in the policy of its use for some time.

MODERN METHODS AND MODERN FURNITURE IN FAVOR.

In the more advanced States, like Minas and São Paulo, the state authorities are making unusually great efforts to introduce modern educational methods and modern school equipment. The state authorities have established model schools and in a general way have attempted to equip them with modern furniture and appliances. The Federal District is building a number of modern schools—is, in fact, modernizing the schools as rapidly as money can be had for the purpose—and all such schools demand more or less of modern furniture. While some of the larger church and other private schools doubtless need American school furniture, and probably would buy some of it if the matter was properly presented to the authorities in charge of them, it is probable that the most trade will come from the authorities of the several States, and manufacturers should communicate with them if possible. (Address: The Superintendent of Education, care of the Minister of the Interior, at each state capital.)

American school furniture so far in this movement toward improvement has had the lead; in fact, practically no school furniture but that of American make has been imported. The chief trouble so far with American furniture has been the bad condition in which it frequently arrives here on account of faulty packing. The sale of such furniture can best be made through local dealers.

CHILE.

AMERICAN EDUCATIONAL METHODS ARE POPULAR IN THE REPUBLIC.

Consul Alfred A. Winslow, of Valparaiso, gives the following account of the progressive stage of educational affairs in Chile and the prospect of introducing modern school furniture:

The Chilean Government is giving educational matters greater attention than ever before, and there are indications that American educational methods are more and more appreciated from the number of American teachers employed in the higher schools of the country. At present the Government has under construction eighteen public school buildings, besides a very large number that are being remodeled and refurnished. This should make a good opening for up-to-date American school furniture and supplies. To date a very large proportion of school supplies have come from Europe.

Where American educational methods have been adopted they have become popular. This is especially true in several private schools in different parts of the country.

Since the Chilean Central Government has full charge of the public schools of this country, all communications relative to educational matters should be addressed to Señor C. Silva Cruz, Ministerio de Instruccion Publica, Santiago, Chile.

COLOMBIA.

HIGH TARIFF AN OBSTACLE TO IMPORTATION OF SCHOOL DESKS.

Consul-General Jay White writes from Bogota that modern school desks are not used in Colombia, and that it would be difficult to introduce them there. He says:

There are both government and private schools in Colombia. The modern school desk is not used in private or public schools. In order to introduce the American school desk it would be necessary to send a representative conversant with the Spanish language and customs, with a full line of samples suited to local needs. He would have to remain on the ground long enough to overcome the opposition to the innovation of using foreign furniture in the schools. At present school furniture is severely plain, and all of home make.

Duty on scientific apparatus for laboratories and schools is 7½ cents per kilo (2.2 pounds), while the duty on furniture is 17 cents per kilo. Freight charges from Caribbean ports to Bogota are $30 per ton.

The importation of scientific apparatus and furniture into Colombia for the calendar year 1907 is shown in the following statement:

	United States.	Germany.	United Kingdom.	France.	All other countries.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Furniture	61,066	31,413	2,125	3,598	4,073
Furniture with mirrors, carved, inlaid, etc	2,760	2,287	6,238	33,351	2,796
Furniture without carving or inlaying	162,392	162,111	17,782	45,233	30,823
Scientific apparatus	....	....	....	250	....
Total	226,218	195,841	26,145	82,432	37,692

ECUADOR.

A VIRGIN FIELD FOR SCHOOL FURNITURE.

Consul-General Herman R. Dietrich, of Guayaquil, calls attention to the lack of modern school furniture in the schools of Ecuador. He writes as follows:

The majority of the public schools in Ecuador are held in houses not constructed for school purposes, and beyond a few rough benches or chairs, there is no school furniture. School desks are practically unknown. There certainly is a field in this country for the sale of school furniture if American manufacturers can interest municipal authorities in the matter.

SWITZERLAND.

SWISS PEOPLE RECOGNIZE IMPORTANCE OF COMMERCIAL EDUCATION.

Vice-Consul Eugene Nabel, writing from St. Gall, tells of the deep interest taken in Switzerland in commercial education, of the government grants to schools and needy students, and of the work done in the various commercial schools and associations. His report follows.

The commercial school in Switzerland continues to gain in importance. In wide circles of the population there is a conviction that a scholastic and special training, added to general culture, is calculated to improve the prospects of advancement in practical business life.

As their name denotes, the commercial schools follow the common purpose of preparing their students for a commercial or similar vocation and of laying the foundation of a comprehensive commercial training. The continually growing requirements for a commercial career naturally give rise to a demand for special attention on the part of the commercial young men of the future to a definite training immediately after the elementary school education, as, for example, has long been customary in technical spheres. As in technical, so in commercial branches the postponement of a special training or in some cases its entire neglect during the school course is regarded with a growing disfavor. It must be emphasized that the students of the Swiss commercial schools who have won a diploma find well-paid posts both at home and abroad in commercial houses and manufactories without difficulty. In the same way the successful women students quickly secure for themselves remunerative positions as shop assistants, correspondents, and bookkeepers. Young men, having completed their studies at a commercial school, are qualified to shorten the ordinary period of apprenticeship in their chosen vocations, or by serving a full period of apprenticeship they may be assured of attaining a standard of proficiency that will earn them rapid promotion. But only the decidedly talented and zealous need hope for such advantages; the experiences of persons of mediocre gifts are not encouraging.

GRANTS FROM THE FEDERAL GOVERNMENT.

By means of grants the Federation aims at raising the standard of commercial-school education, and directs its efforts toward enabling Switzerland to hold her own against the keen competition of the foreigner. Till about ten years ago, the grants to the commercial schools formed part of the budget, and were paid in advance with the stipulation that if after the closing of the accounts the expenditures were found below the budget estimate, a corresponding amount should be deducted on payment of the next year's grant. The complication arising from this method, however, caused the Government to make a provision to the effect that thereafter the grants should be fixed and paid only after the yearly accounts had been forwarded. The contribution from the Federation may amount, according to circumstances, to as much as half the sums subscribed annually by the cantons, districts, corporations, and private persons. The total government grants in 1907 amounted to $119,665, divided as follows:

Commercial schools	$72,734
Mercantile secondary schools	31,945
Small associations and district secondary or continuation schools	4,845
Miscellaneous	10,141
	119,665

CONDITIONS OF APPLICATION FOR GOVERNMENT GRANTS.

Petitions for federal subsidies to the commercial schools, as well as to the mercantile associations, must be presented every year before August 15 to the Swiss department of commerce for inclusion in the preliminary estimates of the Federation. This must be effected through the medium of the cantonal governments, whose duty it is to test and approve these petitions. In the subsidizing of commercial schools only those can be considered at which pupils who have terminated their fourteenth year are received, and which carry on instruction in at least three successive yearly courses, or which pledge themselves to a curriculum of at least three yearly courses. By a new regulation of June 20, 1907, to promote to the utmost the thoroughness of the tuition, at least in commercial and linguistic subjects, the number of pupils in a class must not, as a rule, exceed 24. This last regulation holds good also for the mercantile secondary schools (kaufmännische Fortbildungsschulen). Petitions presented for the first time by mercantile associations, etc., must embrace the following points: (1) Statements on the organization of the courses; (2) the budget of the subsidized year of management; (3) the guaranty that subscriptions are assured to the associations from other quarters (canton, district, etc.).

The department of commerce and labor reserves the right to inspect at any time convenient to itself the working of the institutions subsidized by the Federation and other enterprises and the manner in which the sums subscribed by the Federation have been applied. The payment of the government grants to the petitioner is effected through the cantonal governments.

COMMERCIAL SCHOOLS, GRANTS, ATTENDANCE, TUITION, ETC.

The number of commercial high schools subsidized in the year 1907 by the Federation was three. This grade of commercial teaching is represented in the commercial departments of the universities at Freiburg and Zurich and the mercantile department of the St. Gall cantonal school. The number of higher commercial schools subsidized by the Federation in the year 1892 was 6; in 1896, 22; in 1907, 24; this year there are 26, two commercial girls' schools having been founded at Lugano and St. Gall. Of the 24 schools existing in 1907, 8 are open to boys only, 7 to girls only, and the other 9 receive pupils of both sexes. The grants from the Federation to these two classes of commercial schools amounted in the year 1892 to $7,431; in 1906, to $59,326; and in 1907, to $72,734. The most eloquent testimony to the flourishing condition of the commercial schools is the increase in the number of pupils. These numbered in 1892, 407; in 1906, 2,755; in 1907, 3,182. Of the latter number, 894 were females. Most schools reckon three study years, some four; the cantonal commercial school of Zurich four and one-half, and the schools of Bellinzona five years.

The total expenditures of these 27 schools in the year 1907 amounted to $275,017; $46,134 was taken in school fees; the government subsidy, as stated, was $72,734. The remaining income was derived from cantons, districts, etc. In the three commercial high schools named the fees range from $12 to $38 a year. In the 24 higher commercial schools the fees range from $5.80 to $24.12 a year. The number of obligatory weekly hours of study is, on an average, in the first year's course from 27 to 33; in the second, from 32 to 36; and in the third, from 30 to 35.

THE CANTONAL COMMERCIAL SCHOOL OF ZURICH.

The cantonal commercial school of Zurich deserves special mention here, being the largest in German Switzerland, and because it is preparatory for administrative and traffic service, also for certain high-school faculties. In the past year it numbered 254 students, all boys. There are 278 students enrolled for the school year 1907–8. Twenty-one professors and permanent teachers are engaged in the school, besides 11 assistant teachers. The age of admission to the first class is 14 years accomplished; entrance fees, $1.16; school fees, half yearly, $9.65; subscriptions to the various collections, $1.16. The total expenditure in the year 1907 was $24,181; $3,199 was taken in school fees. The federal subsidy was $6,934. The school has at its disposal a traveling and insurance fund. Every student is insured against accidents while inside the building used by the cantonal school or within the bounds of the lands belonging thereto, and outside the school grounds in all work, excursions, exercises, and journeys conducted by teachers. For this each student pays a premium of 19 cents per half year. The introduction of insurance against accidents, as well as other forms of insurance, is to be warmly recommended to all schools. The test of ability required on the termination of the fourth class, in the presence of experts from the commercial world, takes the place of the commercial apprenticeship examination, while the maturity examination at the close of the fifth class admits the students to the study of legal, political, and commercial science at the University of Zurich and at other high schools. In the scholastic year just ended 12 students successfully passed the last-named test, while the examination as to ability was satisfactorily undergone by 25.

COMMERCIAL ASSOCIATIONS.

The animation noticeable for some years past in the domain of secondary commercial education tends more and more to gain in extent. In Switzerland secondary commercial tuition is imparted almost exclusively in associations of commercial young men, or "mercantile associations" or "unions," as they are called. One of these, the Swiss Commercial Union, displays a most striking activity not only by the foundation of new schools, but also by improvements in the organization and management of its educational courses. Founded in 1863 and extended over the whole country, it numbers to-day 83 sections, with a membership of 13,160. The endeavors of the union are directed to three principal objects—the creation of a national means of commercial education, the obligatory study of the most important subjects of instruction, and the transference of the hours of tuition to daytime. In the year 1907 the Federation subsidized 72 schools of the existing 83 sections to the amount of $31,945. Its widely ramified activity may be seen in the various institutions supported by it, such as hospital fund, fund in aid of the unemployed, benevolent fund, two private funds, legal advice and legal aid, the procuring of reduced life and accident insurance policies, libraries, etc.

Among the numerous private associations which devote themselves untiringly to the cause of schools and education in Switzerland the Swiss Society for the Promotion of Commercial Education may be placed in the front rank. The society has existed for about six years and includes about 160 members, whose chief task consists in supplying to the youth, drawn from the various classes of the population, a preparatory general and special grounding of as thorough a nature as possible. By lectures, special publications, and of late by the Swiss Journal of Commercial Education it endeavors to awaken a proper appreciation of the services which the commercial schools are able to render, and thus to propagandize attendance for the schools. This tendency is supported on all sides, and especially by the government officials and cantonal authorities.

GRANTS FOR COMMERCIAL SECONDARY SCHOOLS.

On the basis of the government resolution of April 15, 1891, the commercial associations for special training are also subsidized by the Federation. The Federation intervenes, in the first place, in favor of the associations which are not in receipt of aid from any other quarter and have to contend with great financial difficulties, as, for instance, those in foreign countries. The support given to the secondary schools by the Cantons, districts, and commercial men varies greatly. Most of the cantonal governments and district authorities pay subscriptions, but there are some which refuse all aid. The great importance of secondary education can not, however, be denied; it is intended, on the one hand, for trade apprentices to complete their practical training, and, on the other hand, for employees who feel the necessity of perfecting the knowledge required for their special calling.

As already stated, the 72 schools of the commercial union received a federal grant of $31,945 (1906, $29,327). Other single associations and district secondary schools, 22 in number, received $4,845 (1906, $4,602). The sum of $10,141 was bestowed for miscellaneous purposes, among which were $2,142 for bursaries to 87 students of the higher commercial schools, $1,638 for libraries and lectures, and $1,795 for apprenticeship examinations, etc.

The most important secondary school of the Swiss Commercial Union is that of Zurich. The number of students (boys) in the year 1907 was 954; the expenditures, $20,026; receipts from the Canton, $1,737; from the district, $3,860; from the commercial class, $1,912; from the society, $386; school fees, $5,453; government grant, $6,659.

SCHOLARSHIPS TO STUDENTS AND MASTERS.

The number of government scholarships in the year 1907 was 129; the government grant amounted to $3,762, as against 88 scholarships and a government grant of $2,348 in the previous year. Eleven bursars devoted themselves to advanced commercial studies at Swiss commercial schools or abroad. Twenty-four masters of commercial schools received bursaries to enable them to attend the international courses for the study of social economy at Lausanne. Seven more masters of commercial schools went abroad for the purpose of visiting the great commercial and industrial centers or to attend classes for the study of languages. In order to encourage students to prolong their school time, thus favoring the acquirement of a finished commercial education, 87 scholarships were offered to students of higher classes at commercial schools.

Petitions for scholarships must likewise be presented through the cantonal governments to the Swiss department of commerce. The following documents must be inclosed with the petition: (*a*) School testimonials showing that the petitioner possesses qualifications which alone justify the award of a scholarship; (*b*) an official statement regarding the petitioner's financial circumstances; (*c*) a guaranty that the petitioner has already secured a bursary from a Canton or district. Government scholarships are offered to needy students of the higher classes of commercial schools subsidized by Government who have distinguished themselves by their accomplishments; also to participants in secondary courses for teachers subsidized by Government and as traveling bursaries for teachers. The award of a federal scholarship implies that the petitioner is assured a scholarship from another quarter also. The federal scholarship may amount to the sum of the other bursary.

The federal secretary for commercial education undertakes numerous inspections of the commercial and mercantile secondary schools and, as far as possible, attends the examinations for certificates and the apprenticeship examinations. The reports regarding these affirm that determined efforts are being made to bring the education of commercial young men into line with modern requirements.

In conclusion, it may be said that in Switzerland there is still a considerable number of excellent private establishments which prepare their students for a commercial career. The celebrated institute of Doctor Schmidt, situated at St. Gall, may be mentioned as one of the best known. [Pamphlets giving detailed statistics, etc., of Swiss commercial schools are on file in the Bureau of Manufactures.]

SPAIN.

EDUCATION AND IMPROVEMENT OF THE POLICE FORCE.

Consul-General Frank D. Hill, of Barcelona, gives the following account of the provisions recently made and enforced for the development of an intelligent and efficient police force for Spain and on the growth of the study of Esperanto:

Barcelona's police school, which was inaugurated last September, was created by royal decree of March 22, 1906, reorganizing the various police bodies of the country on the basis adopted for Madrid by royal decree of January 19, 1906. Following out these two decrees, the present minister of state has made it his aim to raise the moral and intellectual level of the police, and to that end promulgated the royal decree of September 7, 1907, which, with slight alterations, was embodied in the law of February 27, 1908. This law stipulated complete revision of the records of all police officers, discharge of those whose records showed unsatisfactory work, and examination of all officers who had not completed six years of service. The same law approved the regulations already adopted for the police school in Madrid, which were later extended to that of Barcelona.

In the province of Barcelona police reform has received the careful attention of the present governor, aided by the superior council, the police commission, and the 10 district commissions, which bodies were constituted in compliance with regulations of May 8, 1906. The provisions of the law regulating selections of police officers have been strictly enforced.

PROMOTION DEPENDS UPON PROFICIENCY.

The lowest grade in the police force (cuerpo de vigilancia) is that of police candidates (aspirantes a agentes). Superior officers can be selected only from among those of a lower grade. Candidates must pass competitive examinations. There are 50 "aspirantes" in Barcelona and the same number in Madrid, having a yearly salary of 1,500 pesetas ($259.50). Among the candidates for examination 50 supplementary "aspirantes" without salary are selected, who are appointed to fill possible vacancies, strictly in the order of their merit.

Salaried officers with the rank of "aspirantes," after having passed the competitive examinations, must attend the police school and study those branches of law which concern the exercise of their duties, including constitutional law, texts governing association and assembly, printing, public order and public spectacles, notions of criminal law, including preparation of evidence, photography and anthropometry, languages (French, English, Italian, or German), practical exercises in police work, gymnastics, and fencing.

In connection with the school a photographic and anthropometric cabinet has been established for the instruction of the students, as well as the collection of photographic and anthropometric data. Photographs and measurements are carefully collected, catalogued, and indexed. Identification by means of thumb prints will be introduced as soon as the examinations now being made of the several systems of classification in use abroad have been completed.

As regards the details of the various courses outlined above, the professors are allowed to prepare their lectures as they choose, subject to the approval of the ministry of state.

EXTENSION OF ESPERANTO.

The propagation of esperanto in Spain is the work of two associations, the first of which, La Hispana Societo por la Propagando de Esperanto, devotes its attention to the Spanish-speaking provinces of the Peninsula, while the activity of the Espero Kataluna is confined to those provinces in which the Catalan language predominates.

The Espero Kataluna has some 25 affiliated societies throughout Catalonia, all of which teach esperanto free of charge, several of them maintaining public courses. In Barcelona alone are held 48 distinct courses of instruction in esperanto, and a monthly review, Futmonda Espero, is published.

GERMANY.

IMPORTANT WORK OF SCHOOL PHYSICIANS.

Consul-General Richard Guenther, of Frankfort, gives the following brief account of an advance step taken by the municipal council of Erlangen for the physical welfare of school children:

The importance of school physicians is recognized more and more in Germany. The common council of Erlangen made an arrangement with the management of the medical clinic and the children's clinic of the university that it should for the present assume the functions of school physicians. All the scholars of the public schools shall undergo medical examination, which is compulsory, except in cases where a certificate of the family physician is produced.

The parents or guardians of the pupils are at once notified of the result of the examination, so that they may place children under medical treatment, if necessary. The school physicians themselves are not to treat them. For every pupil a health sheet is kept, which is filled out regularly during the seven years of tuition. In every school a weekly consultation takes place at which pupils who are suffering from any malady are required to be present.

With the management of the eye and ear clinic separate arrangements are made concerning special examination of the pupils.

BRITISH INDIA.

REFORM OF SCHOOLS FOR THE CHILDREN OF EUROPEANS.

Consul-General William H. Michael, of Calcutta, sends the following report on recent measures taken to improve European schools in India and Burma and of the chances for selling desks there:

The question of the revision of the Code of Regulations for European schools was raised by the government of India in 1902 in connection with the general question of the improvement of European education. At that time European education, except in Bombay, Madras, and Burma, was regulated by the Bengal code. A committee, representative of the various provinces, was accordingly appointed by the government of India to revise this code with a view to the preparation of a uniform set of rules for the whole of India and Burma. As a result of the deliberations of this committee a draft code was circulated in 1903. The question of the curriculum was referred back to local governments for consideration, and a conference was held in 1906 in which the question was considered. This conference recommended important alterations in the code as drafted, necessitating reference to the government of India, whose final assent to the proposals was received in February, 1908. The code has since been redrafted and published for general information.

LIEUTENANT-GOVERNOR IS PUSHING INTRODUCTION OF NEW SYSTEM.

The code, as published, is based on the results of the careful deliberations of practical educationists, thoroughly conversant with the conditions of European education in Bengal, and there is every reason to believe that it will bring about a substantial improvement in the education of European children throughout the province. The lieutenant-governor desires that it should be introduced as soon as possible, and accordingly directs that the high school and scholarship examination, the middle school and scholarship examination, and the primary school examination for European schools be held for the last time at the end of 1909. The first list of recognized secondary and elementary schools is to be published at the beginning of 1910. As soon as possible the authorities of every school shall address the inspector of European schools stating the grade, elementary or secondary, to which they desire that the particular school in which they are interested should belong, and showing the curriculum which it is proposed to teach, and the arrangements which will be made for teaching it. On receipt of the inspector's report, the director of public instruction will decide in which grade each school will be placed.

BRITISH COMPETITION IN SCHOOL DESKS.

There is no common school system in India or in any of its provinces or cities. There are, however, both private and government schools in various parts of the empire. There are 121 schools and colleges of various kinds and grades in Calcutta.

Both the government and proprietors of private schools buy furniture from abroad. A live and well-equipped representative of American manufacturers of school furniture and supplies could within a reasonable time establish a good trade in India. It would be necessary for such representative to spend some money before he began to make money for his employers. To begin he should adjust himself to Indian conditions, likes, and dislikes, and to particular local requirements. His line of samples should be selected with a view to meeting these conditions and requirements. He must be politic in meeting and overcoming a strong prejudice in favor of goods coming from the United Kingdom. He should be able to give clear and definite information concerning the minutest details of packing, shipping (inland and over-sea), freight, marine insurance, and time required to fill orders, or he should be prepared to quote prices on furniture laid down in any of the open ports of the empire.

PERSEVERANCE ESSENTIAL TO SUCCESS—APPROPRIATIONS—SCHOOL DATA.

Given an able representative on the ground, there are no insurmountable obstacles in the way of securing and holding a good trade in India, provided the proper and sufficiently long continued effort is put forth to build up such a business.

The government of Bengal make an allowance yearly in its budget for schools in which it takes a direct or indirect interest. Out of this allowance such furniture as is needed is paid for. Each school directorate determines what is actually needed and makes the necessary purchases, either by contract or in the open market. Allowances are largely controlled by the lieutenant-governor of Bengal in Bengal Province. The modern style of school desk is not in use in this country, and the representative of American desks and other furniture must have samples and be prepared to demonstrate their superiority in endurance and convenience, as well as in appearance.

So far as the city of Calcutta is concerned, the following data may be of interest: The population according to the census of 1901 was, males 562,596, and females 285,200, making a total of 847,796. The number of boys of school age was 84,389, or 15 per cent of the male population. The total number of boys enrolled on March 31, 1907, was 36,197, and the number of girls 9,121. The cost per head was $8.14, and the total expenditure $368,889. The expenditures were made from the provincial revenues, municipal funds, fees, and other sources.

CLASSIFICATION OF SCHOOLS.

The following shows the classification and number of schools for boys and girls: High schools, government, 5; aided, 5; unaided, 41; making 51 high schools. Middle English schools, government, 2; aided, 26; unaided, 1; making a total of 29 middle English schools. Middle vernacular schools, government, none; aided, 4; unaided, 1. Upper primary schools, government, none; aided, 55; unaided, 4. Lower primary schools, government, none; aided, 212; unaided, none. Special training schools, training, 8; industrial, 5; other, 85. Private institutions, 105; the grand total being 559.

The grand total here given includes a large number of schools that are for the benefit of Hindu and Mohammedan boys and girls, some of which may be held in a room in a private residence. Out of the large population of Calcutta only 7,609 Mohammedan pupils attend the schools above enumerated, while the Hindu pupils number 45,318.

JAPAN.

DESKS OF HOME MANUFACTURE IN COMMON USE.

Consul George H. Scidmore, of Nagasaki, gives a brief account of the schools and school furniture used in that consular district. His report follows:

The general control of schools, both public and private, throughout the Empire of Japan is under the department of education, which keeps informed of the condition of educational work by five inspectors of districts, exclusive of Formosa, who are required to make one complete round of their districts each year.

Each prefecture has a secretary in charge of education, who is assisted by inspectors of limited authority. The institutions under their supervision are ordinary elementary schools, higher elementary schools, middle schools, high schools, commercial schools, higher commercial schools, industrial schools, higher industrial schools, and normal schools. A medical school, authorized to confer university degrees, is located at Fukuoka in this district.

School desks, in most respects corresponding in pattern with those in general use in the United States, are in use here. They are, almost without exception, constructed entirely of wood, and none, so far as I can learn, are imported. A small desk and seat, in common use at Nagasaki, can be purchased at from 3.20 yen ($1.59) to 3.35 yen ($1.67). The Japanese import duty on school furniture, if of wood, is 40 per cent ad valorem. Where metal is the component of chief value the duty is 30 per cent ad valorem.

KOREA.

A GOOD OPENING FOR SCHOOL DESKS, IF COMPETITION CAN BE MET.

Consul-General Thomas Sammons writes from Seoul that the American school desks are setting the fashion in Korea, but that the

Japanese are clever in providing the increasing demands of the country. He says:

An increasing amount of attention is being given to education in Korea. The schools of the American missions, fitted in American fashion, are numerous and excellent. They are being supplemented by large numbers of private schools and, since the Japanese have undertaken the direction of Korea, the government schools have become more numerous and better.

There is, therefore, an increasing market for school furnishings. American styles of desks and other equipment are becoming more popular, as the people cease sitting on the floor. The mission schools have set the example which the others are following. It is doubtful, however, whether American firms will be able to create a market in Korea. They will have to meet keen competition from the Japanese, who are clever in making such requisites as the increase in schools will necessitate. The Japanese are familiar with the language, enabling them to see opportunities which others would not, and they are close to the market. Any concern planning to enter the field should be careful to register its trade-marks and designs at Tokyo, to prevent infringement in Japan and Korea, and should arrange for personal representation.

[A list of officials and other parties interested in school furniture in many of the districts covered by the foregoing reports is on file, and may be consulted at the Bureau of Manufactures.]

AUSTRALIA.

PUBLIC SCHOOLS ARE PUTTING IN MODERN, HOME-MADE DESKS.

Consul-General John P. Bray, writing from Sydney, tells how reclaimed waifs from Australian cities are making modern desks for the schools of that country. He says:

The majority of schools are owned and operated by the state government under the supervision of the minister of public instruction. The new pattern of school furniture, known as the "dual desk," is gradually superseding the old, though the complete substitution will take many years to accomplish.

The educational department has workshops at Cockatoo Island, near Sydney, where most of the school furniture is manufactured by lads from the nautical steamship Sobraon, a training ship for boys who are picked up on the streets of the cities, and the result has been very satisfactory. The total number of dual desks turned out in 1907 by the boys was 3,911. The balance sheet of the work shops for the year ended December 31, 1907, shows a net profit of $14,056 out of an expenditure of $49,092. It would be hard to compete with workshops of this character, owing to the preference they receive and the cheapness of labor.

EXPOSITIONS AND CONVENTIONS.

INTERNATIONAL MEETINGS.

FRANCE.

THE AERODROME EXPOSITION AT PARIS.

Consul-General Frank H. Mason submits the following account of the recent exposition of motor vehicles and motors for industrial and commercial purposes, and of balloons, aeroplanes, and aviation apparatus at Paris, and of the great interest in the American exhibit of the Wright flying machines:

The second section of the Eleventh International Automobile Salon was opened in the Grand Palais on December 24 in presence of the President of the Republic and a large assembly of distinguished automobilists and aeronauts from France, Germany, England, and other European countries. The exposition was devoted to two specified classes of exhibits: First, commercial and industrial motor vehicles of all kinds, motor boats, motors, and machinery for automobile manufacture; and second, aeroplanes, balloons, motors, and materials for the same—in fact everything relating to aviation.

The display under the first of these categories was exceptionally extensive and complete, but included relatively little that was original or of special interest to the general public. The Société Française made a fine exhibit of the Renard trains for long-distance service on country roads; half a dozen leading automobile firms showed attractive novelties in the way of motor stages, omnibuses, and trackless street cars for suburban and village service, and the motor delivery wagon was shown by the various exhibits to have reached an unprecedented standard of perfection for modern commercial purposes.

There were motor moving vans for the rapid transport of furniture and household effects, also a complete outfit of motor-driven hose carts, hook and ladder wagons, and other firemen's apparatus, and a motor hearse of great elegance for the last service to the dead. There were drays and lorries driven by steam, and hydrocarbon engines, capable of carrying 10 tons of freight, and special vehicles for the transportation of incomplete and disabled automobiles. Sales of these special classes of vehicles appear to have been active throughout the week and added another object lesson to show how rapidly and irresistibly the motor-driven is replacing the horse-drawn vehicle for commercial and industrial purposes, and for passenger traffic within the limits and suburban radius of large towns and cities.

BALLOONS AND AEROPLANES.

The feature which mainly absorbed public interest, and distinguished this exhibition from all which had preceded it in this or any other country, was the display of air-navigating devices. After decades of study and experiment it is the judgment of scientific experts that the conquest of the air has now been so far accomplished that the epoch from which this new era of human achievement must be reckoned was the summer of 1908.

It required an opportunity like the present exposition to demonstrate how much France has attempted, how long, costly, and patient has been the struggle, and what a number of Frenchmen, more or less supplied with capital, are now actively interested in aviation, and especially the development of the aeroplane. It is authoritatively stated that there are now in France not less than 150 aerodromes of various types completed and under construction, and the principal builder of aerial motors has had within the past three months nearly 2,000 propositions and letters of inquiry from inventors and constructors of various types of flying machines. The present line of development renders the aerial motor the most insistent mechanical problem of the moment, and in this new field the French machinists are making a heroic effort to retain their present lead.

A notable feature of the exposition is that it resurrected and brought out from the limbo of failure and disappointment the devices of most inventors and theorists in aviation during the past ten or fifteen years. Side by side with the creations of Wright, Farman, and de Bleriot there is exhibited the Avion, a great bat-like construction, invented and built fifteen years ago by M. Ader, the history of whose efforts is the old story of misunderstood and unappreciated genius. After years of patient effort and numerous failures M. Ader succeeded in building a huge monoplane with gigantic wings driven by a steam engine. It was tested at the military camp of Satory, near Versailles, on October 14, 1893, and despite a strong wind succeeded in rising several feet from the ground and flying about 250 yards. Like so many other French aeroplanes of later construction it seems to have been planned for the special purpose of rising from the ground, and had not solved the much more important and difficult problem of equilibrium or stability in a medium so unstable and varying as the air. The driver was inexperienced and "lost his head" in presence of the board of military experts; the machine shot downward, struck the ground heavily, and was seriously damaged. The military board decided that the Avion could not fly and refused to further consider the value of the invention, and the hapless inventor, discouraged and ruined, destroyed his manuscript and models, preserving only the Avion, which has been kept in the Museum of Arts et Métiers, and is now given the place of honor in the present exposition to show how a Frenchman, half a generation ago, pointed the way to the present mastery of the air.

OTHER FLYING TYPES.

Near by was the biplane of Louis Bleriot, which, on October 31 last, flew over the village of Arthenay, alighted to repair a defect in the motor, and then flew back safely to its shed at Issy-les-Moulineaux.

Above, hanging beneath the great dome of the building, is the dirigible air ship Ville de Bordeaux, built by the Société Astra on the same general plan as the ill-fated Patrie, the Ville de Paris, and La République, which have proved so rapid and tractable in flight under the management of the balloon corps of the French army. Near by was the biplane of Delagrange, which on June 22 flew a distance of more than 10 miles; the graceful but ineffective butterfly-shaped Libellule of M. Santos-Dumont; a Voisin biplane, and the new Antoinette monoplane put forward as a pendant of the Antoinette aerial motor, and from which, as well as the Bleriot flyers, great things are expected.

Prominently displayed at the center of the great balcony in the nave of the palace was a copy, in exquisitely perfect workmanship, of Henry Farman's biplane, an exact copy of the machine in which, on October 17, he made the cross-country flight of 17 miles from Rheims to Chalons, and with which he has made a brave and stubborn fight for the prizes for distance and altitude which were offered in France during 1908. Elsewhere along the corridors of the building were shown 20 or more other flying machines of all types, from gliders made of canvas stretched on bamboo frames to several large unfinished machines made by automobile manufacturers, all of which include the feature which the Wright Brothers have discarded, a long fish-like tail carrying the apparatus for governing the altitude and direction of flight.

THE AEROPLANE THAT FLIES.

But the central feature of the entire exposition, the exhibit which formed the focus of public interest and kept its whole neighborhood blocked by a constant, eager crowd of spectators, was the Wright aeroplane, exhibited with great pride by the company which has acquired the patents and good will of the American inventors for France.

The machine on exhibition is not the original aeroplane from Dayton, Ohio, which has won such world-wide renown at the military camp near Le Mans, but an exact copy, hastily constructed at the company's new factory and hurried to Paris for the purpose of this exposition. It carries a new French-built motor of 25 horsepower, but otherwise there is nothing in its plain simplicity of construction and material to distinguish it from its famous prototype which has gathered the records and prizes of 1908 and taught such momentous lessons to the aerial inventors of Europe.

Visitors were here from far and near; from England, Germany, and Russia, for the special purpose of seeing and studying it, scanning and analyzing its form, proportions, and materials inch by inch, comparing it with the long series of flying machines, more or less similar, which have been built, tested, and failed hitherto; and the experts who have wrestled longest with the problems of aviation recognize frankly how far the American brothers have gone beyond all competitors, how unerringly they have discarded the useless features which inexperience had deemed essential—the long, useless tail, for example—and defined what must be the fundamental elements of future flying machines.

VITAL POINTS OF THE SUCCESSFUL MACHINE.

Instead of concentrating their efforts upon making a machine which will rise unaided from the ground, they have discovered and practically mastered the far more important and difficult problem of equilibrium, of so controlling the center of pressure as to maintain the poise and balance of the aeroplane in varying winds and vertical currents of air. This they have accomplished by the use of devices which, although embodying years of study and experience, now appear so simple as to suggest the story of Columbus and the egg. Two superposed planes so curved in surface as to render the machine inert but responsive to the slightest impulse of the righting lever; the double horizontal forward rudder planes, which not only steer the aeroplane upward and downward, but enable the operator to control the center of pressure; the two long propeller blades, carried behind and driven at an easy, moderate speed that puts no undue pressure upon the motor; and finally, the indispensable twisting wing tips, movable at the touch of the operator—these are now recognized as the basic elements upon which future progress in aeroplane construction must be built.

There remains only the final step—automatic balance—to be accomplished to put the aerodrome into the category of practicable vehicles of travel. When and how this will be done, whether by some application of the gyroscope that will enable it to work automatically the flexible wing tips, the near future may probably determine.

NETHERLANDS.

EXHIBITION BY DUTCH CONFEDERATION OF SOCIETIES AT AMSTERDAM.

Consul Henry Morgan makes the following report on a Dutch industrial exhibition to be held this coming summer at Amsterdam:

Under the patronage of Minister of the Interior Th. Heemskerk, Minister for Trade and Commerce A. S. Talma, G. van Tienhoven. commissioner of the Queen for the Province of North Holland, and W. F. van Leeuwen, mayor of Amsterdam, the Dutch Confederation of Societies of the Commercial and Industrial Middle Class will hold an exhibition at the Paleis voor Volksvlyt, in Amsterdam, from June 15 to August 1, 1909, the purpose of which is set forth by the executive committee as follows:

> The economic evolution of the Dutch middle class, led by the Middle-Class Confederation, has always aimed at strengthening the middle class by the cultivation of confidence in its own power and by greater mental development. The means used to attain this were: Stimulation to organize, discussion of the most urgent problems of the day, lectures, etc.
>
> A trade's exhibition may become an important means to further this object of the confederation. In this country the smaller manufacturers have not yet been in a position to learn the advantages of modern technical means, though here, as well as abroad, the competition of the wholesale manufactories is strongly felt by many of the minor industries. In order to enable the minor industries to examine the machines required for a trade and also to be informed as to their productiveness, the Middle-Class Confederation has resolved to organize this exhibition. Its aim is to show in full action various branches of the retail trade, in which manual labor goes together with mechanical manufacture, provided with the newest machinery.
>
> The executive committee, in conjunction with the trade unions (employers' unions) concerned, intends to arrange model workshops for the minor industrials, provided with the newest motors, machines, and tools, in order to enable industry to effectively overcome this lack of technical knowledge. The advantages will be explained of the cooperative use of larger machines, the procuring and working of which is too expensive for the individual manufacturer. Moreover, there will be special sections where the goods belonging to any one of the groups may be exhibited for sale.
>
> In the lecture hall special days and hours will be arranged for addresses, illustrated with stereoscopic pictures.

The exhibition will include the following groups: (1) Clothing; (2) minor industry for gold, silver, copper, wood, pottery, and iron manipulation; (3) electric and other machines for minor industry; (4) means of advertising and administration for the middle class; (5) household effects; (6) middle-class organization; (7) lectures with pictures.

Great interest has already been shown by many firms. In order to properly group the exhibits, applicants for space should apply early. Further information about the exhibition, terms, and regulations may be had from the secretary of the executive committee and from the commissioner of the exhibition at the Paleis voor Volksvlyt at Amsterdam.

ROTTERDAM.

EXHIBITION OF MUSICAL GOODS AT ROTTERDAM.

The Bureau of Manufactures is in receipt of a letter from Joseph Spiero, foreign freight contractor of New York City, stating there will be held in Rotterdam, Holland, from May 19 to June 1, 1909, an exhibition of musical instruments. A great number of the European manufacturers of organs, pianos, and other musical goods will exhibit, and it may be that some American firms will wish to participate. Mr. Spiero adds that his Rotterdam house and other branch offices have been appointed as official forwarding agents for this exhibition, and that shipments therefor will have to go through him in order to pass free of duty through the Dutch custom-houses.

BELGIUM.

ARCHÆOLOGICAL CONGRESS AT LIEGE.

Consul H. Abert Johnson forwards a programme of the Twenty-first Archæological and Historical Congress to be held at Liege on July 31 to August 5, and writes:

This section of Europe is one of special interest to the archæologist and historian, and this congress will be an important reunion of some of the foremost savants of Europe, and will attract the attention of American archæologists. The date of the opening will coincide with that of the opening of the new Archæological Museum in an interesting and ancient building known as the "Maison" or "Hôtel Curtius." The Archæological Institute and the Society of Art and History are to unite in their efforts to make this congress a thorough success, in no way inferior to that held one year ago at Ghent, which, it appears, proved a most noteworthy event among archæologists. [The programme referred to will be loaned by the Bureau of Manufactures to those interested.]

EXHIBITION OF PAINTING AND SCULPTURE AT LIEGE.

Consul Johnson also advises that an international exposition of painting and sculpture is being arranged by the Society for Encouraging the Fine Arts (L'Association pour l'encouragement des beaux-arts), to take place in Liege during the month of May, 1909. The exposition is to be under the patronage of the Belgian Government and the city of Liege, and is to be held in the building known as the Palais des Fêtes, an edifice erected to serve as the fine arts building during the Liege Exposition of 1905. The consul adds that this exposition will doubtless prove of interest to art lovers, and it would be advantageous for American art to be represented.

GERMANY.

AN AERONAUTIC EXPOSITION AT FRANKFORT IS PLANNED.

Consul-General Richard Guenther writes that a meeting composed of leading manufacturers and business men of Frankfort recently considered the plan of holding an international aeronautic exposition in that German city in 1909, to which he added:

The chief mayor and members of the chamber of commerce were present and displayed great interest in the proceedings, which gave full assurance that the plan would be realized. This exposition, which is very opportune in view of the widespread interest existing in aeronautic development, will not only comprise all aeroplanes up to date, but will also exhibit the different materials used in their construction and appurtenances and equipments, physical and scientific instruments, motors, machines for signalling and measuring, etc. American manufacturers will find it useful and interesting to participate either as exhibitors or investigators.

Since writing the foregoing the consul-general reports that the exposition will be held, as the guarantee fund has been promptly raised and eight bureaus have been established to undertake the great work of gathering exhibitors and providing for the multitudinous wants of this important German enterprise. Major von Tschudi, the aeronaut, has been engaged as director for the technical part of the exposition, which will use the grounds and building of the new Frankfort Festivities Hall, which probably is the largest of its kind in the world.

[Application blanks and regulations governing exhibitors are filed in the Bureau of Manufactures.]

BERLIN.

AN EXPOSITION OF TRAVEL PLANNED FOR BERLIN.

An international exposition for the promotion of all interests connected with the equipment, transportation, and lodging of travelers will be held in Berlin, Germany, March 18 to May 15, 1911. It is also proposed to permit the presentation of the attractions, both natural and artificial, possessed by various German and foreign places frequented by travelers, or deserving of their recognition. [The division of the various groups and the rules and regulations governing exhibitors are on file in the Bureau of Manufactures.]

RUSSIA.

EXHIBITS AT ST. PETERSBURG FOR CIVIC PROGRESS.

Consul-General Hunter Sharp, of Moscow, sends a classified report on a forthcoming Russian exposition, of which the following is a résumé:

An International Exposition of Improvements of Cities and Resorts has been organized by the Society of Civil Engineers at St. Petersburg, and will be opened there on May 9, continuing to September 14, 1909. The exhibit will be grouped in 13 classes as follows: Building; ways and means of communication and transportation; water and food supply; lighting, heating, and ventilation; sanitary; resorts and hospitals; schools and education; protection against fire and insurance; charitable institutions; artistic decorations of cities and buildings; household effects; recreation and sport; municipal government; financial economy; accounts of cities and resorts.

NORWAY.

AUTOMOBILES AT CHRISTIANIA.

Consul-General Henry Bordewich writes that parties interested in the automobile trade in Norway are now making arrangements for an international automobile exposition to be held at Christiania some time in May, 1909. Concerning this and some of the mistakes that have been made in introducing American motor cars in Norway, Mr. Bordewich says:

Automobiles from manufacturers of different countries will be exhibited. Printed rules concerning the exposition are not published as yet, but the time being so short American automobile manufacturers are given this preliminary notice in order that such of them who may wish to exhibit, and who have no representatives here, can have the opportunity. The exposition charges for space will be 5 crowns, or $1.34, per square meter (10.8 square feet). Exhibitors must defray all expenses for freight, duty, cartage, and insurance on their goods, but duty paid on machines which are again taken out of the country after the exposition will be refunded. The import duty on automobiles is 12 per cent ad valorem.

Entries have to be made prior to April 1, 1909, at the offices of Den Norske Automobilklubs Udstillingskommitte, Christiania, Norway. By addressing it or Engineer E. H. Rotheim, Adr.: Elisenbergveien 5, Christiania, further particulars may be learned.

EXCELLENT OPPORTUNITY PRESENTED.

It appears to me that this is a good opportunity for Americans to display their goods in Norway and to lay the foundation for a permanent trade. Automobiles are coming into general use in the country, and American manufacturers should be able to secure their share of the trade. Some two or three American automobiles are offered for sale in this market, but for some reason or another the sales are not as many as reasonably might be expected. One reason is that American manufacturers give too large a field to their representatives; there are too many agents and subagents, and all of them must have a commission. Then, again, there are too few American automobiles in the hands of dealers for display to the interested public; it is difficult to effect sales by the aid of printed matter only. The trade is not conducted in a properly systemized manner. A few cases that have come to my knowledge will illustrate this.

PROFFERED TRADE TURNED AWAY.

A civil engineer, a man in good standing and interested in the introduction and sale of American automobiles in Norway, applied directly to an American manufacturer for the agency of their machines. He was referred by the manufacturer to an export house in New York, with whom he carried on a lengthy correspondence. When finally a hurry call for certain information was sent by cable, the export house by mail referred him to a European agent in Paris, who in turn referred him to a local agent at Christiania. Although the engineer had closely followed the automobile trade and read all advertisements, he had never been able to learn that the local agent referred to was agent for sale of the automobiles which he sought for. In the meantime the order in question was filled by a French manufacturer, although it was plain that the American machine would have been preferred if all the delay had been avoided.

Another American firm was approached by the same Christiania man. He was referred to the agents for all Scandinavia at Copenhagen. Asking them on what conditions he could become their subagent for Norway, he got the laconic reply: "You have to buy at least one automobile before we will tell you anything further." That was all the information and satisfaction he got. This reply of the Copenhagen agents has now been sent to the American manufacturer.

Americans who have no representation here and who wish to display their goods at the coming exposition have no time to lose in making their arrangements. [A list of Christiania firms with whom correspondence can be undertaken for securing local representation may be secured from the Bureau of Manufactures.]

BERGEN.

INTERNATIONAL CONGRESS AGAINST LEPROSY.

A dispatch has been received from Consul Felix S. S. Johnson, of Bergen, advising that the Second International Scientific Conference Against Leprosy will take place at that Norwegian city on August 16–19, 1909. Invitations will be issued to all foreign governments to participate in the same.

AUSTRIA-HUNGARY.

INVITATION TO PARTICIPATE IN A MUSICAL CONGRESS AT VIENNA.

Baron Hengelmüller von Hengervár, the Austro-Hungarian Ambassador at Washington, addresses the Secretary of State as follows in regard to a musical congress at Vienna:

At the end of May, 1909, an International Musical Congress will be held at Vienna in connection with the centennial anniversary which it is proposed to celebrate at the same time in honor of Josef Haydn.

Announcements of intention to participate in this Congress have been received from all civilized nations, and in order to insure to it an attendance worthy of its high cultural significance, as well as the most brilliant external display possible, Privy Councilor Bishop Dr. Mayer, president of the executive committee for the Josef Haydn centennial celebration, has asked the Austro-Hungarian Ministry for Foreign Affairs to invite official representation from foreign countries to this congress.

UNITED KINGDOM.

INTERNATIONAL EXHIBITION, "WOMEN OF ALL NATIONS."

The British Board of Trade announces that a "Women of All Nations" Exhibition will be held in the Olympia, at London, in September, 1909. Full information may be obtained from Mr. A. Staines Manders, organizing manager, 75 Chancery lane, London, W. C., England.

BRITISH UGANDA.

AGRICULTURAL AND INDUSTRIAL FAIR AT KAMPALA.

Consul Arthur Garrels, recently appointed to the Zanzibar post, has prepared from accounts in African papers the following report on the exhibition at Kampala:

An Exhibition of the Products and Industries of the Uganda Protectorate was opened on November 9, 1908, at Kampala, in Uganda, British Africa. The exhibition, originally intended for the special encouragement of the cotton industry, was broadened in scope during the process of organization and resulted in a collection of nearly 4,000 exhibits, covering all of the branches of native industry and showing the resources and possibilities of development in that territory.

Nearly all of the tribes, aggregating almost 3,000,000 people, sent representatives, some of whom came hundreds of miles. Among them were many native rulers and chiefs. The gathering together on a friendly footing of the Kings of Buganda, Bunyoro, Ankole, and Toro and the principal chiefs of Busoga was an unprecedented occurrence, which evidenced the moral and intellectual improvement progressing throughout the Uganda Protectorate. The most important of the exhibits was cotton, concerning which Governor Bell, in his opening address at the exhibition, said:

> Three years ago the exports of cotton were worth only a few hundred pounds (about $1,000). During the current year the value of the output from the Protectorate is estimated to reach a total of at least £50,000 (about $250,000). No doubt during the next five years this territory will rank as one of the chief cotton-producing dependencies of the British Empire.

The displays of agricultural products, besides cotton, included sisal fiber, rubber, coffee, vegetables, chillies, ghee, corn, oil seeds, peas, etc. Among the natural products were exhibits of native timber and beeswax. A practical demonstration was being given of the simplest method of preparing beeswax for the market. The operations were carried out by two Buganda subchiefs, who showed the whole process of converting a honeycomb into a block of clean wax.

Native women gave practical demonstrations in making lace, spinning cotton, and weaving cloth; the men in making musical instruments, drums, bark cloth, baskets, pottery, and ironwork. The live stock exhibited comprised cattle, goats, and sheep.

The foreign exhibits comprised cotton goods, machinery, and implements, a cotton gin being in operation. A leading exhibit was a complete outfit showing the progress of coffee from the bean to the cup. It showed the growing berries and the pulping, drying, roasting, and packing by machinery.

CANADA.

CONVENTION OF THE DAIRYMEN OF ONTARIO.

Consul A. G. Seyfert, of Owen Sound, advises that the Forty-second Annual Convention of the Dairymen's Association of Western Ontario, held at Brantford during the week beginning January 11, brought out some interesting facts relating to one of the leading industries of the Province, which he summarizes as follows:

From the year 1900 to 1907 there was a decrease of 1,137 tons of cheese made in Ontario, but the value of the 1907 output was

$1,665,043 more than the greater output of 1900, or $15,106,030. The manufacture of butter was 651 tons greater in 1907 than in 1900 and the increased value $592,522. The increase for 1908 was 338 tons greater than the previous year. The decrease in the export trade is accounted for by the increase in home consumption. The dairy herd competition, which is one of the features of the association, produced some notable facts for the year 1908 in the test system of the cow. The Holstein, Durham, and common-grade cows were the class from which the test was made. A summary of over 100 cows in the competition shows that the Holstein cow produced 6,720 pounds of milk, at a value of $59.45 for the year; the Durham, 6,401 pounds, the value of which was $61.76; and the common-grade cow in the test produced $58.21 per cow. This competition would indicate but little difference in the grades of cow, and that in favor of the Durham.

The discussions during the convention developed that the greatest competition apprehended in the foreign market for Canadian dairy products in the future is from Siberia.

BRAZIL.

EXPOSITION FOR MODERN HOSPITAL APPLIANCES AND SUPPLIES.

The following additional information concerning the exposition to be held in Rio de Janeiro in August, 1909, in connection with the Fourth Latin-American Medical Congress, is furnished by Consul-General George E. Anderson, of that port:

There is every prospect that this exposition will be a great success, both from the standpoint of those attending the congress and exhibitors at the exposition. The Brazilian National Exposition buildings are to be utilized, and there will be space practically without limit for exhibitors. While the regulations of the exhibition have divided it into sections, it is understood that this does not mean that exhibits of firms will be divided without their consent or in a way to interfere with the proper and effective display of their goods.

No charge is to be made for space, and every facility will be afforded in the way of conveniences in reaching the grounds, in operating machines and appliances, and in the care of exhibits. There are no limits as to the style of exhibit, i. e., no limits as to booths, location, etc., except that first applicants will be given first choice. Steam is to be supplied, without expense to exhibitors, in sufficient pressure to operate hydrotherapeutic and sterilizing apparatus. Electricity is to be supplied without cost to exhibitors, the standard current for the exhibition being, alternating, of 110 volts for lighting and 220 volts for power. Water will be supplied free of cost with pressure great enough for therapeutic and closet purposes. Gas is also to be supplied free of cost to exhibitors.

SCOPE AND INTENT OF THE EXPOSITION.

There has been some talk of exhibitors from the United States and from France combining in the case of each country, with a view of constructing their own building for exhibits. While apparently nothing definite has been arranged in this line and may not be arranged at all, the directorate of the exposition is ready to furnish land for a site and outside connections for such a building if it is deemed advisable to construct it. In short, the directorate is anxious to hold an exhibit which will show to best advantage the goods offered for the betterment of the sanitary and health conditions of Brazil and South America generally. The design of the exposition is to further the introduction of sanitary and modern hospital appliances in these countries, and an endeavor is to be made to make the exposition actually effective in the direction of such introduction. The sale of goods is to be furthered as far as possible, both for the benefit of the exhibitors and with a view of attaining the object of the exposition. While goods for the exposition are admitted duty free, the duty will have to be paid in case such goods are sold. On the other hand, goods sold in Brazil will largely be sold to hospitals and institutions which are allowed the free importation of goods for their work. In any event Brazilian buyers are accustomed to import goods and pay the duty themselves, prices on such goods and indeed on almost all lines of goods being generally quoted f. o. b. foreign port.

Indications are that the congress which is the occasion for the exposition will be well attended. Those attending it represent the cream of the buyers of sanitary appliances and hospital goods in South America. The programme arranged about a year ago is being amplified and promises to be the most successful of the series of congresses. The foreign committees operating in connection with it include those of Argentina, Bolivia, Chile, Equador, Peru, Panama, Mexico, Uruguay, Cuba, Guatemala, and Paraguay, with prospect of immediate organization in Colombia, Costa Rica, Haiti, Honduras, Nicaragua, Salvador, Santo Domingo, and Venezuela.

CHILE.

AMERICAN MANUFACTURES TO BE EXHIBITED AT SANTIAGO.

The Bureau of Manufactures is in receipt of circulars announcing an Exhibit of American Goods at Santiago, Chile, for a period of two or three months during the fall of 1909. The South American Exhibit Company, of 27 William street, New York City, having this matter in charge, states that goods must be in New York ready for shipment on or about May 1.

Señor Don Anibal Cruz, the Chilean minister at Washington, states to the managers that "This proposition meets with my entire approval, and I shall request my Government to extend to you the use of the Exposition Palace without charge, together with the free entry in bond of goods for the exhibition." It is announced that the only charge for exhibits will be at the rate of $5 to $15 per square foot, according to location, which will include the transportation of the goods by steamer from New York to Chile, including insurance and the installation in the Exposition Palace ready for exhibition.

FOOD PRODUCTS CONGRESS.

CONVENTION AT PARIS WILL PASS ON IMPORTANT QUESTIONS.

Consul William Bardel writes from Rheims that, under the guidance of the "White Cross Society of Geneva," a second congress for the repression of fraud in the production and manufacture of food products will be held at Paris next October. The consul reviews the movement as follows:

It is claimed that while the first congress which assembled for that purpose at Geneva last year brought about a definition of what constitutes "pure food products," this year the theoretical definition is to be followed by practical commentaries. In other words, it is to be determined what treatment food products can undergo without ceasing still to be pure.

In this spirit information will be collected on the production of wine, cider, grease, chocolate, sugar, sausages, butter, oil, bread, vinegar, conserves, etc. Concerning the question of how to make pure wine, this district, being the most important of all districts in France so far as the production of wine is concerned, will be called upon to furnish expert information.

As is well known, wine is the product of complete or incomplete fermentation of the juice of fresh grapes. It has to undergo many processes of treatment from the time the grape enters the wine press until its juice reaches the table of the consumer. The fresh wine must be "fined," also clarified; and its barrels must be treated with the fumes of brimstone, etc. How all these operations should be performed so that the wine never ceases to be pure is a question which will be submitted for determination to competent parties, such as all wine-growing and wine-producing syndicates. It is expected that they will best be able to declare how pure wine is to be produced, and all proceedings which will not be contained in the schedule thus furnished by the wine experts will be declared illicit or fraudulent.

This question is to be duly settled at Paris this year. Another congress, to be held at Brussels next year, is to deliberate on the methods of analyzation for discovering fraud in the manufacture of food products.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

AUSTRALIA.

GOODS MADE BY FIRMS EMPLOYING PRISON LABOR BARRED.

Consul John F. Jewell, writing from Melbourne December 21, 1908, reports that after March 1, 1909, the importation into Australia of goods manufactured by firms employing prison labor will be prohibited, irrespective of the fact whether the goods in question have been produced by prison labor so long as they are similar to those in which prison labor is employed by those firms. The consul states:

The proclamation issued by the minister of customs, Melbourne, on December 19, 1908, prohibits from March 1, 1909, "the importation into Australia of all goods manufactured by any manufacturer who employs prison labor, which are of a like character to (a) any goods manufactured by such manufacturer, manufactured wholly or in part by prison labor, or (b) any goods manufactured by such manufacturer, made wholly or in part within or in connexion with any prison, gaol, or penitentiary."

IMPORTATION OF WHITE OR YELLOW PHOSPHORUS MATCHES PROHIBITED.

The Commonwealth of Australia Gazette of December 19, 1908, contains a proclamation of the governor-general prohibiting the importation into the commonwealth after June 1, 1909, "of matches and vestas containing the substance usually known as white or yellow phosphorus."

REGULATIONS GOVERNING LABELING OF SPIRITUOUS LIQUORS.

By an order issued by the minister of trade and customs, December 2, 1908, under the commerce act, extravagant and misleading statements appearing on the labels in the case of Schnapps and any other spirituous liquors as to the medicinal and curative properties of the liquor are not to be permitted.

For example, statements claiming that Schnapps is a specific in gout, rheumatism, kidney or bladder, or ordinary obstruction of the kidney complaints, dropsy, colic pains in infants, debility, or exhausted vital energy, are extravagant and misleading. At most all that should be claimed is that, owing to the method of preparation, Schnapps is an aromatic, alcoholic beverage, having antispasmodic and diuretic properties.

Present markings may, however, be accepted up to May 1 next, after which date all misleading and extravagant statements or claims must be eliminated from labels, wrappers, etc.

CANADA.

CONSOLIDATION OF QUARANTINE ORDERS AGAINST UNITED STATES.

The orders made under the "Animal Contagious Diseases Act" prohibiting the importation from several of the United States of America of animals and other articles, published in Daily Consular and Trade Reports for December 1, 3, and 7, have now been superseded by the following order and instructions issued by the Department of Agriculture January 25 and published in a memorandum of the Department of Customs of the same date.

Under the provisions of the animal contagious diseases act, for the period of six months from the date hereof the importation or introduction into Canada of cattle, sheep, or other ruminants, or swine, or of flesh, hides, hoofs, horns, or other parts of such animals (with the exception of cured meats, sausage casings, lard, and tallow), or of hay, straw, fodder, or manure from the States of Pennsylvania, New York, New Jersey, Michigan, Maryland, and Delaware, six of the United States of America, or that have been within the said States within the two months immediately preceding their offer for entry to Canada, is prohibited.

Provided that dressed meats and the dried or pickled or salted green-cured skins or hides, and the horns, hoofs, wool, and bristles of such animals, and hay, straw, or other fodder, may be imported or introduced into Canada when originating outside of the said six States and not produced from animals grown or slaughtered in any of the said six States, although shipped through the said six States, under regulations to be made by the department of customs, approved by the minister of agriculture.

Provided further that hay or straw originating outside of any quarantined county in any one of the said prohibited States and destined to points outside of Canada may be introduced to Canada for transit therethrough when carried in closed box cars to which are attached customs seals.

All previous orders and regulations governing the points at which inspection of live stock can be made for export to Europe are canceled. Until otherwise ordered no Canadian cattle, sheep, or other ruminants, or swine shall be permitted to leave Canada for export to Europe except through the ports of St. John, New Brunswick, Halifax, Nova Scotia, or Charlottetown, Prince Edward Island.

CERTIFICATES OF ORIGIN.

The following regulations are prescribed by the Department of Customs, under the foregoing provisions, as to origin of shipments arriving at the frontier:

Collectors of customs at Canadian frontier ports will require satisfactory proof, with declaration or certificate in writing from the shipper or his agent, that the hay, straw, or other fodder did not originate in any of said six States, and that the dressed meats and the skins or horns and the hoofs, wool, and bristles of animals arriving from the United States are not produced from animals grown or slaughtered in any of the six States above mentioned.

United States customs certificates may be accepted as to origin of any of the above articles shipped in transit through the United States from other countries.

The quarantined counties in Pennsylvania are: Philadelphia, Delaware, Chester, Lancaster, Dauphin, Lebanon, Berks, Montgomery, Bucks, Lehigh, Northampton, Carbon, Schuylkill, Luzerne, Columbia, Montour, Northumberland, Lycoming, Clinton, Center, Union, Snyder, Mifflin, Juniata, Perry, and York.

The quarantined counties in New York are: Erie, Niagara, Orleans, Genesee, and Monroe.

The quarantined counties in Maryland are: Carroll and Baltimore.

The quarantined counties in Michigan are: Macomb, Oakland, Wayne, Washtenaw, and Munro.

The quarantined counties in New Jersey are: (Not separately specified.)

The quarantined counties in Delaware are: (Not separately specified.)

Until otherwise ordered, no vessel can carry live stock from Canada that has touched a port in any of the prohibited States of the United States within twenty-one days previously.

The shipment to Europe is forbidden of Canadian animals through ports of the United States, and also of Canadian animals from a Canadian port in a vessel carrying American live stock.

Ships leaving United States ports on the Atlantic coast and carrying cattle, sheep, or other ruminants, or swine are forbidden to touch at any Canadian port.[a]

Stock cars and cars that have carried cattle are not to be admitted from the United States without a certificate of inspection from the Canadian quarantine officer.

QUARANTINE IS RELAXED.

Consul Paul Lang reports from Sherbrooke, under date of February 1, 1909, that the cattle quarantine against the United States, on account of the foot-and-mouth disease, has been relaxed to the extent of allowing hides, horns, meat, straw, and hay from the United States to come in if the place of origin is not in one of the six quarantined States.

This class of freight is allowed to enter Canada after passing through the affected States, provided it is in closed cars.

NEW PATENT-MEDICINE ACT TO GO INTO EFFECT.

By the proclamation published in the Canada Gazette of December 12, the new act respecting proprietary or patent medicines, assented to July 20, 1908, is to come into effect on April 1, 1909. The chief provisions of the act are as follows:

Every manufacturer or importer of proprietary or patent medicines, as well as every agent of a manufacturer or importer, must procure annually from the minister of inland revenue, before offering any medicine for sale, a numbered certificate of registration as a manufacturer or importer of proprietary or patent medicines. In applying for registration every manufacturer, importer, or agent must specify the medicines which he intends to manufacture or import. A fee of $1 is charged for each certificate of registration.

All proprietary and patent medicines must be put up in packages or bottles having on the label or wrapper, in conspicuous characters, the name and number under which the medicine is registered, with the words "The Proprietary or Patent Medicine Act," and also the manufacturer's name and address. In the case of firms whose chief place of business is not in Canada, the name of the Canadian agent shall be filed with the minister of inland revenue.

Section 7 of the act reads as follows:

7. No proprietary or patent medicine shall be manufactured, imported, exposed, sold, or offered for sale—

(*a*) If it contains cocaine or any of its salts or preparations;

(*b*) If it contains alcohol in excess of the amount required as a solvent or preservative, or does not contain sufficient medication to prevent its use as an alcoholic beverage;

(*c*) If it contains any drug which is included in the schedule to this act, but the name of which is not conspicuously printed on, and an inseparable part of, the label and wrapper of the bottle, box, or other container: *Provided*, That every manufacturer or importer of or agent for the sale of any medicine containing any of the drugs mentioned in the schedule may, when applying for a certificate of registration for any medicine, transmit to the minister an affidavit specifying such drug and the proportion of it contained in the mixture and dose, and the minister may thereupon grant a certificate of registration for such medicine without the printing of the name of the said drug upon the label and wrapper if it appears to the minister that the proportion of the drug used is not dangerous to health.

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[a] The prohibition does not apply to vessels carrying horses.

2. The burden of proof that the provisions of this section have been observed shall rest upon the person or company manufacturing, importing, selling, or offering for sale such patent or proprietary medicine.

The schedule mentioned in section 7 includes the following articles:

Acetanilide and other coal-tar products.
Aconite and its preparations.
Arsenical preparations.
Atropine.
Belladonna and its preparations.
Cantharides.
Carbolic acid.
Chloral hydrate.
Chloroform.
Conia and compounds thereof.
Corrosive sublimate.
Cotton root.
Croton oil.
Digitalis and derivatives.
Ergot.
Essential oil of mustard.
Ether.
Hellebore.
Heroin.
Hyoscyamin and its preparations.
Indian hemp.
Morphine and its preparations.
Nux vomica and derivatives.
Opium, its preparations and derivatives.
Pennyroyal.
Phenacetine.
Prussic acid.
Savin and preparations thereof.
Strychnine and its preparations.
Sulphonal.
Tansy.
Tartrate of antimony.
Veratria.

The distribution of samples of proprietary or patent medicines from door to door, in a public place, or by mail, is prohibited. This does not apply to the distribution of samples among retail dealers.

Copies containing the complete text of the act are on file in the Bureau of Manufactures and will be loaned to those interested.

CHILE.

INCREASED DUTY ON CONDENSED MILK.

Consul Alfred A. Winslow reports from Valparaiso, under date of December 8, 1908, that by act of the Chilean Congress, approved by the President of the Republic on November 23, 1908, and published in the Diario Oficial on December 5, 1908, the tariff duty on condensed milk, with or without sugar, was increased from an ad valorem duty of 60 per cent on a valuation of 55 centavos, which made the actual duty collected 12.04 cents United States gold per kilo of 2.2 pounds, to a specific duty of 38 centavos, or 13.87 cents United States gold, per kilo of 2.2 pounds, including weight of package.

COLOMBIA.

REDUCTION OF EXPORT DUTY ON COCOANUTS.

Consul Isaac A. Manning reports from Cartagena, under date of December 30, 1908, that, acting under authority from the President, the governor of Cartagena has issued a decree reciting the disastrous results of a cyclone which passed over the islands of San Andres de la Providencia, in which many cocoanut plantations were destroyed, and reducing the export duty on cocoanuts from those islands from $2 to $1 per thousand for a period of one year.

CUBA.

REDUCTION OF RATES OF IMPORT DUTY ON THREAD AND YARNS.

By the decree promulgated in the Gaceta Oficial, January 12, the following rates on thread and yarns are to be levied on importation into Cuba:

Tariff No.	Articles.	New rate.	Surtax.	Total duty.	Reduction to United States.	New rate to United States.
113	THREADS OR YARNS.					
A	In reels, skeins, or rolls for crocheting, embroidering, or sewing N. W. (Disp. 3d, Rule 9) Kg	$0.20	*Per cent.* 30	$0.26	*Per cent.* 30	$0.182
B	In skeins, spindles, or in any other form exclusively for the manufacture of tissues N. W. (Disp. 3d, Rule 9) Kg	.15	30	.195	30	.1365
C	In cordage and ropes G. W. 100 Kgs	6.00	30	7.80	30	5.46
129	THREADS OR YARNS.					
A	In reels, skeins, or rolls N. W. (Disp. 3d, Rule 9) Kg	.10	25	.125	20	.10
B	Vegetable fibers, the preparation or manufacture of which is not expressly classified in the tariff (Disp. 3d, Rule 9) Kg	.075	25	.09375	20	.075
145	Woolen yarns, threads, or yarns. Ad valorem	25%	15	28%	40	16.8%
148	SILK OR FLOSS SILK.					
A	Twisted in reels, skeins, or in any other form for sewing or embroidering. Ad valorem	30%	15	34.5%	40	20.7%
B	In skeins or in any other form exclusively for the manufacture of tissues. Ad valorem	25%	15	28%	40	16.8%

FRANCE.

TARIFF REVISION AND PRICES OF AGRICULTURAL MACHINERY.

Special Agent Charles M. Pepper, writing from Paris under date of January 25, describes the agricultural machinery market in France, the methods employed by importers to regulate prices, and the disadvantage which American producers are suffering as a result of the higher duties they are required to pay as compared with German, British, Belgian, and other competitors. Speaking of the import business, he says:

The importers of agricultural machinery in France are organized in a general syndicate. This organization now embraces all the leading firms. Its members include prominent native houses such as Wallut & Co., Pilter & Co., and foreign houses which are represented by their own general agents. Among the American concerns thus represented are the International Harvester Corporation and the Johnston Harvester Company. The Massey-Harris Company, of Canada, is also a member. The German manufacturers are also represented, one of the leading firms being Ph. Mayfarth, of Frankfort on the Main.

The syndicate is governed by regulations and by-laws of its own. It is in fact a combination or organization of the importers of agricultural implements in competition with the native manufacturers. It aims to secure uniformity in sales and to prevent price cutting either by direct or indirect methods. Complaints are investigated and penalties provided for violating the regulations of the association. In practice the syndicate regulates the relations of the various companies or firms with the sales agents.

Meetings of the association are held at stated intervals and prices are fixed to govern for a given period. Very complete catalogues and price lists are issued by some of the importing firms, but as a rule these illustrated catalogues and price lists are not distributed every year. Changes in prices as given in catalogues are noted in answer to inquiries and sometimes by special circulars. Some catalogues and price lists of former years, which are forwarded, afford a basis for making comparison between American, English, and German agricultural machinery.

The business of farm implements generally may be measured by the trade in harvesting machinery. For several years, notwithstanding that the prices of raw material and of labor were going up, the importers of agricultural implements, because of long-time contracts and for other reasons, were unable to raise their prices. An increase, however, was made in 1907.

GENERAL TRADING CONDITIONS.

Prices of harvesting machinery for 1909 were fixed by the syndicate in October, 1908. In connection with the prices, a circular was issued laying down the following general conditions:

1. The agents undertake to respect to the utmost of their ability the retail selling prices fixed each year by the firms who supply them.

2. Machines must be paid for on the dates indicated elsewhere. Overdue payments will bear interest at the rate of 5 per cent per annum. On the other hand, anticipated payments will be subject to a discount of 5 per cent per annum. In case of nonpayment of accepted drafts the amount due will be payable on the date when the unpaid bill falls due.

Repair parts will be shipped to destination payable at ninety days, except for stock orders sent in before April 1, which will be payable September 30.

3. The prices fixed are understood for machines in cases or set up before leaving the warehouses at the option of the supplying firm.

4. When expert mechanicians are furnished the buyer must pay their daily salary and traveling expenses, railway fares, vehicles, etc., which will be charged at cost.

5. The representatives for districts bind themselves not to sell or allow to be sold outside of the territories allotted to them—at least without coming to some understanding with their fellow agents in the vicinity. For every infraction of this rule and in reparation for prejudice caused, they are liable to be proceeded against by those whose territory has been invaded by them or by their assistants.

6. The agents bind themselves, when making advertisements in newspapers, not to publish prices and not to make disparaging references to the quality of the machines handled by other agents.

7. Machines are always sold f. o. b., and when in exceptional cases or for special reasons the supplying firm should accept prices including free delivery, the freight will be paid by the buyer on the arrival of the goods and deducted from the invoice on production of the bill of lading.

8. The buyer binds himself not to sell machines which might compete with those for which the agency is granted him.

9. The representative undertakes to buy from the firm he represents all the spare parts which he may need for the machines furnished by that firm; this is the only condition under which parts broken as a result of defective construction or defective material will be replaced gratis. The breakages should be reported as soon as known, and the parts to be replaced should be held for the inspection of the supplying firm, if called for. In any event the buyer has to pay the freight on the parts,

10. Exclusive contracts of sale will only be valid for one season, and they can be entirely canceled before expiration if the buyers do not comply with the conditions agreed upon with the supplying houses.

11. In case of dispute the parties agree to accept the jurisdiction of the Tribunal de Commerce de la Seine.

These general conditions were set forth in a letter containing the prices for 1909, which are as follows:

Kind of machine.	Retail.	Wholesale.
1-horse mower, with 2 knives	$59.83 to $64.65	$50.18 to $54.04
2-horse mower	63.69 to 69.48	54.04 to 55.97
2-horse mower, rear cut, 2 knives	69.48 to 72.37	55.97 to 59.83
Binder, complete	179.49 to 189.14	150.54 to 160.19
Binder, without bundle carrier	173.70 to 184.35	144.75 to 154.40
Reaper, 1-horse, 4-foot	100.36 to 110.01	82.99 to 90.71
Reaper, 2-horse, 4½-foot	102.29 to 112.90	84.92 to 92.64
Reaper, 5-foot	105.18 to 115.80	86.85 to 94.57
Rake, 22 teeth	29.91 to 31.84	23.16 to 27.02
Rake, 26 teeth	31.84 to 33.77	25.09 to 28.95
Rake, 32 teeth	33.77 to 35.70	27.02 to 30.88
Reaping attachment	12.54 to 16.40	6.75 to 9.65
Side delivery reaping attachment	50.18 to 57.90	40.53 to 48.25
Fork tedder, 4 teeth	44.39 to 49.21	34.74 to 40.53

This scale of prices is established according to the distance to the place of delivery and for mowers, reapers, or binders does not include knife grinder, second-draft attachment, or extra knife.

Prices as quoted are net.

AMERICAN MACHINERY SUFFERS FROM TARIFF DISADVANTAGES.

The importers of American agricultural machinery are at a disadvantage in competition with importers of Canadian, English, and German machinery because they are compelled to pay the maximum tariff rates while the other countries enjoy the minimum rates. Prices, therefore, may be said to be governed by the countries which enjoy the minimum tariff. The American companies attribute their failure to have a larger share of the trade to the defeat of the reciprocity agreement negotiated between France and the United States. This agreement would have put them on even terms with their competitors.

AMERICAN WORK TRANSFERRED TO FOREIGN COUNTRIES.

The International Harvester Corporation, when this agreement failed, bought land and began the erection of factories near Lille. These factories are now nearly completed, and the company will manufacture for 1910. In the beginning it will employ between 750 and 800 workmen. The representative of the International Harvester Corporation states that it would not be necessary to manufacture in France if the reciprocity agreement had been put into effect.

Should the pending trade convention between the Dominion of Canada, and France be ratified by the French Senate, the Canadian companies will have a very decided advantage over the companies in the United States. The International Harvester Corporation will be able to secure the benefit of this trade convention by shipping from its factories at Hamilton, Ontario, but the French representative of the corporation says it will be necessary to transfer the manufacture of many of the implements from Illinois to Canada. The Illinois factories are equipped for supplying the French market better than those in Canada and the change will be an inconvenient one. The independent factories in the United States which have no branches in Canada will be at a marked disadvantage.

While no positive statement can be made regarding the future French tariff, the tendency is toward raising the duties over the present rates when the tariff of 1892 is revised. The proposed increases affect the maximum rates to a larger extent than the minimum, and the disadvantages under which the United States is laboring under the present maximum tariff will be still further increased. The subcommittee of the tariff commission, charged with examining the proposed laws for modifying customs duties, in its report on iron and steel schedules covers agricultural machines.

AGRICULTURAL MACHINES.

In regard to agricultural machines the report is in part as follows:

An examination of the tables of imports and exports shows for the articles included under tariff No. 522 the ever-increasing prosperity of foreign industries, and at the same time the stationary condition of our export commerce, which appeared so prosperous a few years ago.

In 1892 Mr. Berger in his report could say with some truth that "the value of our imports balances to within a few thousand francs that of our exports," and it is less in obedience to economic considerations than to the pressure of continual complaints emanating from French manufacturers which made him increase to 9 francs the duty previously fixed at 7 francs by the Government.

Unfortunately the vote of the 1892 tariff coincides—a fact observed regarding various other industries—with a recrudescence of foreign activity, and immediately the divergence between the imports and exports becomes more and more accentuated, so much so that to-day the grievances of our manufacturers are only too well founded.

Our industry just maintains the export trade, while the foreigners double and triple theirs. However, until 1895 the peril did not appear imminent, when suddenly in three years the imports rose from 5,698,918 kilos in 1896 to the enormous figure of 12,000,000 in 1897, and to 19,345,945 in 1899.

The suddenness of this growth as well as its magnitude are somewhat astonishing. It is true that the frequently prohibitive customs duties recently adopted by competing nations favor native industries, to the detriment of our own; the new methods of working in series did not take root easily in our country, where workmen sometimes, not properly understanding their own interests, received them with distrust; and cheaper labor gives the foreign manufacturers great advantages over us. But these facts, while important, are not sufficient to completely explain the enormous increase of importation. Perhaps one must see in it the result of a new industry developed after the creation of modern machines (mowers, binders, etc.), and giving for a time, to the profit of the neighboring countries, a practical monopoly, whereas French industry, slower to see the new industry under a new aspect, and holding on to the old routine, finds itself outdistanced.

Since then the imports have not ceased growing, and attained in 1906 the enormous figure of 29,304,399 kilos, against 5,741,072 of exports. Besides, we must not overlook our exports to the colonies, which since 1902 increased annually about 1,800,000 to 2,000,000 kilos. While the comparison between imports and exports does not always offer a sufficient criterion of the situation of an industry, this would not hold true in this case, where the divergence amounts to millions of kilos, and we may say without fear of error that the national industry is in some way stifled by foreign importations.

However, before increasing the duties to any perceptible extent, we must think of the agricultural industry which might thereby have to bear additional burdens, which we do not wish to inflict. Without affirming that certain machines have not their equivalent in France, it is nevertheless true that there are some which are not manufactured to an extent sufficient to meet the national consumption (binders, for instance). Our agriculturalists, obliged to have recourse to foreign countries, would bear the increased taxation until such time as our manufacturers are in a position to supply this particular demand. Your commission, therefore, by slightly lowering the present duties on machines weighing more than 400 kilos, tried to avoid such a contingency. Mowers, binders, etc., generally weighing more than 400 kilos, will not be affected by the slight increase which we propose to place on small and medium machines. * * *

It is to be noticed that more than one-half of the imports comes from the United States, and that at the rate of the general tariff of 1892—that is, 15 francs per 100 kilos. It seems that this importation should not be impeded by raising the duties. It exists on account of a lack of production in France, which the legislator should remedy as far as he is able, but it lies especially with the interested parties to put an end to it by placing their manufacture in a position to satisfy the demands of the consumer.

In consideration of these observations, we beg to propose the following wording for tariff No. 522:

Number.	Articles.	General tariff.	Minimum tariff duties.
		Francs.	*Francs.*
522	Machines for agriculture (motor not included) weighing—		
	More than 400 kilos......per 100 kilos..	[a] 16.00	[b] 8.00
	More than 100 to 400 kilos......do.....	[a] 20.00	[b] 10.00
	Less than 100 kilos......	[a] 30.00	[b] 15.00

[a] Present rate 15 francs. [b] Present rate 9 francs.

NOTE.—A review of the new tariff bill now pending in the French Chamber of Deputies is to be published by the Bureau of Manufactures, to which applications should be made for copies.

MEXICO.

NEW REGULATIONS FOR THE IMPORTATION OF MACHINERY.

Consul William W. Canada reports from Veracruz, under date of January 16, that by decree of December 11, 1908, the Mexican tariff laws with reference to the importation of machinery for the construction of a complete plant have been changed, so that such machinery may be imported in one or several shipments or lots, provided the requirements of the law are complied with. The consul continues:

In all cases when such machinery is to be imported in several shipments the "Direccion General de Aduanas" must be notified of such intention at least thirty days prior to the expected arrival of the several pieces that go to make up the whole plant.

It will also be necessary to present plans and a general description of the plant, indicating the locality where the machinery is to be erected and through what custom-house entry is intended to be made. If the machinery is to be shipped in parts or lots and entry is to be made at several custom-houses, plans must be submitted for each lot, indicating the parts of the entire machinery to arrive at each particular port.

When these requirements have been complied with the "Direccion General de Aduanas" will issue the necessary instructions, provided the treasury department will authorize the importation. The entire plant must be imported within six months from the date of the importation of the first lot, and the plant must be constructed within six months from the date of the importation of the last lot.

DUTIES ON ARTICLES COMPOSED OF DIFFERENT MATERIALS.

In the following report from Saltillo Consul Thomas W. Voetter shows the costly results arising from the lack of study of the Mexican tariff by American exporters:

One of the general rules for the application of the Mexican tariff is not well understood by many exporters to this country, with the result that the consignees often must pay greater sums in duties than they should. Rule V of these general rules may be translated as follows:

> When a manufactured article composed of different materials quoted in the tariff, or the vocabulary of same, comes dismounted, and each material is declared separately, even when all may be found in the same package, if the weight of each one of said materials can be ascertained, the duties will be adjusted according to the rate which applies to each one.

Mexican tariff duties are nearly all specific, and the articles are weighed to determine the amount of duty to be paid in the majority of cases. A small amount of gold, silver, or platinum will cause the heavy duties for those precious metals to be imposed upon the entire weight of any article of which they may form a very small part. An ornament of mother-of-pearl, brass, or leather attached to furniture will cause same to be classified under a paragraph which calls for increased duty. If the articles are dismounted and declared separately, the above-quoted rule will enable the importer to avoid heavy duties.

A dentist of this city recently imported a dental chair from the United States. He understood that all leather cushions were removable. When the chair arrived at the frontier all leather parts were removable and could be declared separately except a few square inches on a child's seat. For this exception the duties on the chair amounted to $70 United States currency, while if the manufacturers had not overlooked this part the duties would have been a small fraction of the amount mentioned.

PORTUGAL.

ADMISSION OF ADDITIONAL IMPORTATION OF WHEAT.

Chargé d'Affaires George Lorillard transmits from Lisbon the following translation of a Portuguese decree of December 31, 1908, authorizing an additional importation, in conformity with articles 31 and 40 of the regulations, of 50,000,000 kilograms (1,837,167 bushels) of wheat, subject to an import duty of 7 reis per kilo (20.6 cents per bushel). With the authorization published in the Daily Consular and Trade Reports of November 16, 1908, this makes the total importation of wheat so far authorized during the present season 100,000,000 kilograms, or over three and two-thirds of a million bushels. The following is part of the text of the decree:

> ARTICLE 1. The importation of 50,000,000 kilograms of foreign wheat is hereby authorized for the making of bread, for the manufacture of pastes, and for that of crackers and biscuits, from January 15 to July 31, 1909.
>
> 1. Of the amount of wheat mentioned in this article 2,000,000 kilograms shall be for the manufacture of pastes and 500,000 kilograms for the manufacture of crackers and biscuits.
>
> 2. The pro rata of imported wheat shall be in accordance with the table annexed to the decree of November 12 of the current year.
>
> 3. Importation will only be allowed to the manufacturers who, according to law, have acquired their respective quotas of national wheat in all the pro ratas of the current harvest year.
>
> ART. 2. The duty for the wheat imported under the terms of this decree is fixed at 7 reis per kilogram.

RUSSIA.

ABOLITION OF FREE PORT OF VLADIVOSTOK.

A dispatch from the American ambassador at St. Petersburg, received March 9, states that the law closing Vladivostok as a free port will take effect March 14. Under this law it will no longer be possible to import free of duty all foreign merchandise into that port and the vast territory tributary to the Amur River, the Russian tariff being made applicable to that entire section. A large list of goods is still retained, however, on the free list, and includes a great variety of articles in which the United States has an important export trade. According to the Nachrichten für Handel und Industrie of February 5, the following are among the articles retained on the free list:

Cereals, rice, vegetables, fruits, condensed milk, salt; salted, smoked and dried meats, and sausages (importation of canned pork meats is prohibited); butter, live animals, fertilizers; horns and hoofs; animal fats; olein, oleic acid, paraffin, transmission belts of leather and hemp, cork, manufactures of wood, plants, basket-makers' wares, building materials, except cement; grinding stones and substances; roofing tiles, terra-cotta wares for building purposes, sheet glass of certain kinds, coal and coke, carbolic acid, rosin, pitch, tar and asphalt; chemicals, pharmaceutical preparations, phosphorus, glycerin, tanning materials, dyeing substances, white lead, zinc white, red lead; iron and steel, and manufactures thereof; copper, aluminum, nickel, cobalt, bismuth, tin, lead and zinc, in pigs, bars, billets, and sheets; copper-wire netting, needles, shears for shearing sheep, scythes, sickles, shovels, spades, forks, rakes, hoes, picks, and mattocks; hand tools, machinery, weighing scales, tramway cars, ships, rags and paper pulp, books, pictures and maps, and hemp hose for fire engines.

URUGUAY.

REGULATIONS GOVERNING USE OF LEAD IN CANS CONTAINING FOOD.

The British Board of Trade Journal of December 31, 1908, contains a cable report from the British minister to Uruguay, to the effect that after January 1, 1909, the importation into Uruguay of preserves in tin cans, which are closed with solder containing more than 5 per cent of lead, is prohibited. The minister adds that as a result of his representations the Uruguayan Government has consented to exempt from this regulation all British canned goods which have been shipped to Uruguay before December 31, 1908.

VENEZUELA.

REVOCATION OF DECREE AFFECTING DUTY ON FATS FOR SOAP MAKING.

Mr. John Brewer, in charge of the archives at Caracas, transmits a copy of a Venezuelan decree, dated January 5, revoking the decree of October 1, 1908 (published in Daily Consular and Trade Reports, December 8, 1908), by which the duty on raw tallow and other fats for soap making was reduced from 14.475 to 1.93 cents per kilo, and the duty on prepared tallow for stearin candles, stearic and oleic acids, stearin, pure or mixed with paraffin, was raised from 4.825 to 14.475

cents per kilo. The present decree restores the duties in force prior to the issuance of the decree of October 1, 1908.

CLASSIFICATION OF WHEAT AND FLOUR.

Under date of January 23, 1909, Mr. John Brewer, in charge of the archives at Caracas, transmits a copy and translation of a Venezuelan decree dated January 11, placing wheat in the grain, wheat flour, cracked wheat or semola in the third class of the tariff, subject to a duty of 4.825 cents per kilo (2.2 pounds).

REVOCATION OF DECREE CHANGING CLASSIFICATION OF TEXTILES.

Consul James W. Johnson reports from Puerto Cabello, under date of January 4, that the decree of November 17, changing the classification of textiles in the Venezuelan tariff, published in Daily Consular and Trade Reports of January 29, is abrogated by the decree of December 28. The transfer of matches from the fifth to the sixth class of the tariff, with a change in the duty from 24.1 to 48.2 cents per kilogram (2.2 pounds) is to remain in effect.

MISCELLANEOUS.

TRADE IN REFRIGERATORS.

AUSTRIA-HUNGARY.

AMERICAN MAKES NOT IN USE IN REICHENBERG.

The following information concerning the use of refrigerators in the Reichenberg consular district and the steps which must be taken for the introduction of those of American construction, is supplied by Consul Charles B. Harris:

In this consular district ice boxes and coolers are generally used in meat markets, hotels, restaurants, and private houses, and, as a rule, they are manufactured by local tinsmiths, who monopolize the trade almost entirely by reason of their low price. Although there is now and then imported a box from Germany, there are no American refrigerators in use in this district, as far as ascertainable.

Reichenberg is a manufacturing city of about 60,000 people, including adjoining villages. It has no large importing houses, nor are there any wholesale or large retail establishments other than those of the wares manufactured here. The district is constantly and thoroughly canvassed for all lines of goods by representatives of houses in Vienna, Prague, Dresden, Berlin, and Hamburg, such representatives speaking German and Bohemian, and through them such goods would be much more likely to receive consideration from the local dealer. It would therefore be advisable to establish agencies for this territory in some of the cities named. As Reichenberg has many well-to-do people who always desire the best and most fashionable goods, it is suggested that, as an experiment, American manufacturers correspond with and send catalogues in German to the dealers whose names and addresses are forwarded.

The retail price of ice in Reichenberg is 8 cents per 50 pounds. [Names and addresses of dealers, transmitted by Consul Harris, are on file in the Bureau of Manufactures.]

ITALY.

USE OF REFRIGERATORS IN GENOA.

Consul-General James A. Smith furnishes the following information concerning refrigerators in Genoa and the reason why American manufacturers have failed to secure their full share of the trade:

Refrigerators are extensively used in this section by hotels, restaurants, and by the better class of private families, and the indications are that the demand will increase. At present the far larger part sold here are of domestic make, there being a number of well-known manufacturers in Milan. Refrigerators of German make are on the market, and also those of American origin, the latter being bought by dealers here from Hamburg houses. American refrigerators are highly appreciated, because of their elegant and practical construction, but there are good reasons why there has been and still is a limited demand for them. These reasons are based primarily upon the excessive cost here, and the fact that the American manufacturer has apparently taken no steps to familiarize himself with what is necessary to be done in order to largely reduce the cost. A well-known dealer here informs me that the price of American refrigerators at place of origin is sufficiently low, and the added freight charges are not a serious drawback to the more extensive introduction of the American-made article.

TARIFF INTERPRETATION.

The question of excessive cost here therefore resolves itself into the manner in which they are classified by the Italian customs. This office has taken some pains to ascertain how this classification is determined, and the information obtained, which seems to be of considerable practical value, is here submitted for consideration.

Refrigerators under the Italian tariff are classed as furniture, and furniture is classed at the following rates, per quintal (220.46 pounds): Made of cabinet wood, $9.65; ordinary wood, veneered, inlaid, or carved, $9.65; others of ordinary wood, $2.51; upholstered furniture made of ordinary wood, $7.72; upholstered furniture made of cabinet wood, and upholstered furniture, veneered, inlaid, or carved, $9.65.

The rate of $2.51 per quintal is based on the gross weight, including packing; that of $7.72 on the gross weight, less the legal tare of 8 per cent; that of $9.65 on the net weight.

To enjoy the minimum rate of $2.51 it is necessary that the furniture be made entirely of ordinary wood, the use of any cabinet wood, even in the minutest quantity, rendering it subject to the higher rate; it must not be gilded, silver plated, or lacquered in any part, including the metal trimmings. It may be varnished, but must not be carved, inlaid, or veneered in any part whatsoever. The metal trimmings must be plain, with no ornamentation. No leather or textile of any description can enter into the construction in any part.

By treaty with Germany and Austria, furniture of ordinary wood which has machine-turned parts or is ornamented with machine-pressed work or machine-made plain moldings enjoys the minimum rate. Similar importations from the United States would profit by these provisions under the favored-nation clause of our commercial treaties with Italy, but distinctions made at the custom-house between machine and hand work might possibly result in the higher rate being imposed or in vexatious delay before the right to the minimum could be established. It is therefore better to avoid complications of this character, in the interest both of the exporter and importer, by plain construction in every part.

MISCELLANEOUS INFORMATION.

Under the heading of ordinary wood are the following: Pine, maple, birch, chestnut, cedar, oak, cherry, beech, ash, elm, pitch pine, willow, sycamore, teak, and others. It is to be noted that practically all the refrigerators I have seen of domestic or German make are built of pitch pine and varnished. The list of cabinet woods is a long one and unnecessary to give here.

The local octroi, or municipal duty, on furniture is as follows: Of ordinary wood, not carved, inlaid, or veneered, and without ornamentation of any kind, per quintal (220.46 pounds), $2.90; all other furniture, $4.83.

Only by conforming to the foregoing conditions to secure the minimum rate can American manufacturers of refrigerators hope to secure a fair share of this market.

Quotations should be made c. i. f. Genoa. Discounts, if any, should be clearly stated, as well as terms of payment. These are essentially important points.

Ice, artificial, sells here at 1 cent per 2.2 pounds.

SWITZERLAND.

PROBABLE OPENING FOR AMERICAN REFRIGERATORS IN BASLE.

Consul George Gifford writes as follows concerning the use of ice boxes and coolers in Basle, and the probable opportunity for trade therein in American refrigerators:

Ice boxes and coolers are generally in use in hotels and restaurants, but up to this time they are infrequently found in private families, and such boxes have insufficient space for the ice. The retail price of ice, delivered in the boxes, is about 30 cents per 100 pounds, or 20 cents taken at the factory.

At this time, when industry and trade are suffering severely from the depression, which the people here think originated in the United States, I am unable, in general, to give American manufacturers much encouragement about the prospects of selling their products here, but such investigation as I have been able to make convinces me that there may be a chance for trade in American refrigerators—certainly for anything better than the home-made article—and to that end I send the addresses of wholesale dealers in Basle who would be the proper parties to handle the goods, but the best introductory movement would be to address an engineer and ice manufacturer, whose name is herewith transmitted, who would take particular interest in the matter. [Addresses on file in the Bureau of Manufactures.]

PORTUGUESE EAST AFRICA.

AMERICAN REFRIGERATORS IN LOURENÇO MARQUEZ.

Consul W. Stanley Hollis furnishes the following information concerning refrigerators in Lourenço Marquez, the port of Mozambique, and through which a large percentage of goods for the Transvaal passes:

Refrigerators or ice boxes are generally used here by the well-to-do householders, as well as by the hotels and the kiosks and restaurants. Very few are used in groceries, and none in the meat market, as left-over meat is sent every day, after morning market hours, to the central cold-storage warehouse.

The refrigerators that are in use here are almost all of American make, and none of any other make are to be found offered for sale.

Some galvanized insulated water coolers are occasionally to be seen here, but these can not be called refrigerators.

The retail price of ice in Lourenço Marquez runs at from 3½ to 4 cents per pound.

Two of the leading firms in Lourenço Marquez have for years been handling American refrigerators. [The addresses of parties in Lourenço Marquez and Beira who would make good agents for American refrigerators, given by Consul Hollis, are on file in the Bureau of Manufactures.]

BRITISH INDIA.

REFRIGERATORS NOT EXTENSIVELY USED IN BURMA.

The following information concerning the use of food-preserving apparatus and coolers in Burma is furnished by Consul E. A. Wakefield, of Rangoon:

The extent to which refrigerators are used here is very slight when compared with American standards. Most Americans, Europeans, and the better class of Asiatics have ice boxes or coolers of some description, but with very few exceptions they are not of modern type. There is now in course of construction a refrigerating plant in this city which, it is said, is the first one in this section of Asia.

There are no meat markets, as in the American sense, but native booths or bazaars at which meat, fish, and fowl are sold. Meat must be eaten on the day it is killed, and fowl are sold alive to be killed as required. Of course this will be changed gradually if the cold-storage plant is a success, but as the meat and fish trade is wholly in the hands of the natives, who are very slow to change established methods, this will require time.

There are a few small American metallic ice boxes on the market here, and they seem to be selling quite readily; also a few English refrigerators, but the number is very small considering the population and the climate. Local ice boxes, or meat safes as they are usually called, are quite moderate in price, but do not in any way compare with ordinary American refrigerators. A box, made of teak wood, lined with zinc, with charcoal filling, size 2 feet deep, 3 feet wide, and 4 feet high, costs about $12 or $15. These are especially used by hotels and groceries.

Ice is retailed here in small quantities at 1 cent to 1½ cents per pound. Hotels and clubs get a lower rate, say one-half to three-fourths of a cent. Machine-made ice is the only kind obtainable here.

The effect of this climate on most all wooden furniture should be borne in mind. There is so much moisture in the atmosphere, combined with excessive heat, that expansion or contraction is almost continuous, and veneer woods simply warp all out of shape and fall to pieces. For similar reasons a highly varnished surface is undesirable, as everything coming in contact with it sticks in a most unpleasant manner. This is particularly true of Lower Burma, with its annual rainfall of from 100 to 240 inches, combined with tropical heat.

In the list of names forwarded and filed in the Bureau of Manufactures, some may be willing to handle refrigerators. Many of these are simply import and export agents, dealing in anything which, to them, may seem profitable. They all have established connections all over Burma. From this list a representative may be secured to cover the whole of Burma.

MUSICAL INSTRUMENTS IN CHINA.

GRAPHOPHONES THE MOST POPULAR INSTRUMENTS WITH THE CHINESE.

In compliance with instructions, Deputy Consul-General Clarence E. Gauss, of Shanghai, prepared the following report covering the trade in musical instruments in China:

The value of the musical instruments imported into China in 1907, as classified in the customs returns, were as follows, in United States currency, which is used throughout this report: Pianos, piano players, organs, string goods, horns, etc., $113,764; automatic instruments, $19,272; graphophones and accessories, $94,059; total, $227,095; a decrease of nearly $8,000 from the imports in 1906, but more than double those of 1905 and 1904.

In regard to the first class (pianos, etc.), the United Kingdom, Germany, and the United States have until lately controlled the trade, but Japan is now an energetic competitor.

The demand for pianos in China is not from the Chinese, but from foreigners. It is estimated that there are about 40,000 foreigners in this country. The field is not, therefore, large. Most foreigners in China (except the missionaries) are here under contract for a short term of years only. In purchasing pianos they do not feel justified in paying the increased "foreign prices" for the higher grade instruments and then, after a few years of use, either shipping them home at the additional freight cost and the risk of damage or disposing of them for practically nothing at auction or to an occasional second-hand purchaser. As a consequence, the sales are confined largely to moderate-priced instruments. There are in this market both foreign and China made pianos.

INSTRUMENTS THAT CONTROL THE MARKET.

The German and British manufacturers supply the majority of the pianos imported. A few American pianos are also brought in, but the number is not large. The American manufacturers are unable to place properly constructed instruments on the China market at prices which will allow of competition with the British and German makes. Most of the American pianos imported are of the higher grade. There are several instruments on the market known as American pianos which are in fact "American" only in that they bear the names of American builders. One instrument is contructed entirely in an American company's German factories; another is also constructed in Germany, but parts are supplied from the United States and Great Britain, and the instruments are sold by a firm in the United States.

Experience has shown that unless most carefully and substantially constructed foreign pianos will not render satisfactory service in this climate. This is especially true of the lower-priced instruments. The excessive dampness which exists at many of the ports throughout most of the year badly affects pianos, and unless they are substantially built they are always demanding expensive repairs. The instruments may warp, the actions be affected. There are a hundred and one different faults which are found. The only general criticisms of American pianos which are made by expert builders in this country are, first, that they are built on massive lines and are too heavy to stand the great amount of moving about to which pianos in this country are subjected, and, second, the prices are too high to allow of competition with British and German makes.

While there is a market for a limited number of imported pianos in China, it is not a large one, and the British and German builders seem to hold the trade, together with the foreign-built American instruments imported. There are occasional small orders for high-grade American pianos, which will probably continue, but it is certain that so long as the retail prices of British and German pianos in Shanghai are from 10 to 30 per cent lower than American prices there is no opportunity here for the American manufacturer.

CHINA-MADE PIANOS.

The high prices demanded for the foreign makes, even for the cottage and yacht styles, the difficulty in securing properly constructed instruments, as well as the refusal of some of the larger and more reliable manufacturers to build moderate-priced pianos specially for this market, resulted some years ago in the establishment of two piano factories in China—one at Hongkong and one at Shanghai. The factory at Hongkong is not in active operation and is now used chiefly for repair work. The factory at Shanghai has been established for thirteen years and is conducted by a British firm. Three British expert piano builders, with a force of from 50 to 60 Chinese workmen and apprentices, constitute the force.

The China-made pianos are not constructed to compete with the high-grade foreign instruments in this market. The idea in establishing the factory at Shanghai was to place on the market a moderate-priced piano which would stand the climate and could be shipped about without great risk of damage. A great many experiments had been made with imported pianos of moderate prices, but it was found that satisfactory instruments could not always be obtained, and it was determined to manufacture honestly built pianos to meet this special trade.

The China-made pianos are being built of teak, oak, and imported woods. The metal frames are being imported, as well as most of the other metal parts and the wires. The actions are manufactured here and the instruments assembled in the workshops under the direction of the British expert builders. An attempt was made to have the metal frames cast here, but it was found too expensive.

The candelabra, now seldom seen on American pianos, is placed on almost all of the instruments. It is noticed also on most of the British and Continental makes in this market.

The prices of the China-made pianos are from about $150 to $300, while the prices of foreign pianos run from $150, the lowest, up to $1,000, the highest; average prices, $325 to $560.

JAPANESE EFFORTS.

It is interesting to note the efforts being made by the Japanese to introduce their pianos in this market. Several well-equipped factories have been established in Japan whose head builders are Japanese trained in British and American establishments. They have succeeded in turning out handsome pianos, which they are offering to the dealers at about one-half the catalogue price of American pianos. They are gradually overcoming the faults which are being found with their instruments, and are making some headway, though small, in this market. As the demand for pianos is not large, they can not, of course, expect to secure a large trade. The foreign dealers, while not refusing to put Japanese pianos on exhibit, decline to place any number in stock, and the Japanese are compelled to turn to general importers of their own nationality to push the trade.

PIANO PLAYERS AND COMBINATION PLAYER PIANOS.

The market for piano players and for combination player pianos is not large, on account of the high prices demanded for instruments imported from abroad. The American manufacturers have filled orders in these lines, and are perhaps the only importers.

The English factory at Shanghai is manufacturing a player piano at a moderate price, which is supplying a small demand. The construction of these pianos was undertaken with the idea of placing a cheaper instrument on the market than could be imported, and also of interesting the Chinese in them. Difficulty was first experienced in getting cheap but satisfactory actions; they finally succeeded, however, and are now turning out a very meritorious instrument.

It was thought it would be possible to create quite a demand for the pianos among the Chinese at the treaty ports, and special rolls of Chinese music were cut, but the experiment proved unsuccessful and the trade is now confined entirely to the foreigners.

AMERICAN VERSUS JAPANESE ORGANS.

The item of "baby organs" enters largely into the trade in musical instruments in China. With the exception of the talking machine, this is practically the only foreign instrument which is being supplied in any numbers to the Chinese. Among those who have been reached by the missionaries and Christian educators in the Chinese schools, where the missionary-educated Chinese are now being employed as teachers, and among the missionaries themselves, there is a large trade in "baby organs." There is also a fair demand for larger organs and for large-size folding baby organs from the missionary stations.

The French were the pioneers in the organ trade in China, but with the improvement of organ-building machinery the United States soon became the leading importers, first supplanting the French and then defying competition by British and German makes. The American organs were strongly built, neatly made, of good tone, and sold at moderate prices.

But the American trade in organs has suffered greatly of late on account of the introduction of Japanese "baby organs" at almost half the price of the American instruments. The first Japanese organs imported were crude, but in spite of this their low cost proved a strong argument in their favor with the Chinese purchaser. The musical goods dealers, who were enjoying a good trade in American organs, soon found that they could not compete with the Japanese instruments. With time the Japanese were able to improve their organs, and commenced their introduction into this field with energy. The strongest argument in favor of their instruments was the low price.

TRADE LOST TO JAPAN.

It was proposed to the American manufacturers that they manufacture the parts for the baby organs in the United States and send them to China, to be set up in the piano and organ factories here. This was done and a material reduction in the price of the American organ was made. The Japanese, however, have installed in their factories the most improved organ-building machinery to be had in the United States, and they are now sending their organs into this market in large numbers. Their instruments, while of as good appearance as the American organs, are generally not so well set up and are made of less seasoned wood, but they only ask half the price of American organs for their instruments.

The difficulty in tuning an organ is not as great as in tuning a piano, so that the Japanese have found little trouble in this direction. The tuning is done by Japanese girls.

It is said that the foreign importers have practically given up bringing in American organs, either set up or in parts, it being found impossible to compete with the Japanese article. There seems no prospect of reviving the American trade or even of continuing the small China-made organ trade in face of the Japanese importations. It is certain that the American manufacturer can not cut his prices 50 per cent to allow of competition with the Japanese.

STRING AND AUTOMATIC INSTRUMENTS AND HORNS.

The trade in these lines is small and is confined almost entirely to the foreigners. There are a number of American instruments on the market. There was at one time a small demand from the foreign-educated Chinese for violins, which were supplied from Germany. It was soon found, however, that the Japanese could offer an article at just one-third the cost of the German instruments

In the same way the Japanese have practically gained control of the trade in instruments for the school bands. In a number of foreign missionary and also government schools the Chinese have established school bands in connection with their drill corps. British horns were formerly imported for this purpose, but the Japanese are now supplying this demand almost exclusively. Their instruments are much cheaper.

In connection with the importation of pianos, piano players, organs, string instruments, horns, etc., it is interesting to note how the trade has been distributed between the ports. The figures for 1907 are: Tientsin, $49,254; Shanghai, $36,528; Hankow, $9,056; Canton, $5,979; Chefoo, $4,247; Newchwang, $3,436; Foochow, $2,603; all other ports, $2,661.

The importation of automatic musical instruments represents musical boxes exclusively, according to reliable information. The trade has increased from $3,450 in 1904 to $19,272 in 1907. Of the total imports, more than one-half ($10,069) came from Japan; the remainder from Belgium, Hongkong, Germany, the United Kingdom, and the United States.

Almost the entire Japanese import entered through the port of Dalny. It is probable that they find a Japanese market in Manchuria. There are on the Shanghai market several makes of music boxes imported for the foreign trade. The American share in this trade is insignificant—$150 in 1907.

GRAPHOPHONES AND ACCESSORIES.

When the American talking-machine manufacturers began to turn their attention to markets in foreign countries, it appears that the

China field was by no means overlooked, for of the total imports American manufacturers control 80 per cent.

The imports of graphophones and accessories into China during the years 1904, 1905, 1906, and 1907 were $50,295, $64,622, $94,460, and $94,059, respectively.

The imports credited to the United States in 1907 amounted to $32,080, while the imports from Canada were valued at $38,930 by the Chinese customs. These figures, however, need explanation. There are no Canadian talking machines on this market. The value of the importation credited to Canada should be added to the American total, the shipments of American machines and accessories having been made over the steamship lines of the Canadian Pacific Railway Company from the Canadian port of Vancouver, and thus credited to the Dominion.

In competition with American machines there is a German machine, and also one introduced by a French company. The German machines have been in this market for some time; the French machines are later arrivals. These machines do not seem to be meeting with great success.

The talking machine is rapidly becoming a most popular instrument with the Chinese, who purchase by far the greater percentage of the imports. It is said that the business done with the foreigners in China does not amount to more than perhaps $2,000 a month. It is for the Chinese trade that the companies are in this market, and it would appear that this is a business which may eventually develop into much larger proportions. The percentage of the increase for 1907 over previous years is very encouraging.

The Chinese do not purchase the higher-priced instruments, but demand cheap machines. They are not as particular as the foreigners, and do not mind the scratching so long as the machine is loud enough. The scratch in playing is also, to some extent, lost in the Chinese music. In northern China one of the American companies supply what are known as straight-armed machines, while in southern China the taper armed are supplied. The latter give less scratch in playing.

ATTENDING TO TRADE ECCENTRICITIES.

One of the American machine companies is catering carefully to the trade in China, even to its eccentricities. An energetic and experienced representative of this company came to the Orient in the summer of 1907. His machines had already been placed under the agency of the largest musical goods house in China, who had done excellent work in introducing them and building up an American trade. With the assistance of this firm he set about enlarging the field. There are now agencies in almost every treaty port in China. The head agency at Shanghai has eight or ten Chinese salesmen continually in the field, and every detail of the trade is being carefully watched. For instance, it was found that the black horn, which was suitable for the home trade, did not appeal to the Chinese eye. The company has now placed bright red and yellow horns on their machines, and they are very popular. This company has 2,000 Chinese records and the other American company about 1,000. There have been four expert record makers from talking-machine companies in this field during the past year—two American, one French, and one German. The French and German companies have about 1,000 records. There is at present an expert in China who is engaged in making another 1,000 records for one of the American companies.

This record making is most expensive and is very carefully undertaken. The most famous Chinese bands and palace singers are being engaged to make records. They are being brought from all parts of the Empire to the three record-making centers—Peking, Shanghai, and Hongkong. Here the apparatus for making the master records is set up and the recording done under the direction of the expert. The master records, however, are never sent home for duplication until they have been approved by the Chinese. It has been found that certain classes of records must be made especially for the northern, the central, and the southern trade. A record popular in the north seldom finds a sale in the south, and vice versa.

The Chinese do not care for foreign records, except for laughing songs and selections, with the bugle and snare drum. The talking-machine trade is not one which will be quickly swelled into great proportions, but the active and energetic work which is being done by the American companies in this line is producing most satisfactory results and is certain to make an increased demand.

The reports of graphophones and accessories, by ports, were as follows in 1907: Tientsin, $27,590; Shanghai, $43,551; Hankow, $6,352; Canton, $4,085; Newchwang, $2,116; Kiaochow, $1,781; Foochow, $999; other ports, $7,585.

CHINESE MUSIC.

INVENTION AND CHARACTER THEREOF, MUSICAL INSTRUMENTS, ETC.

In connection with the foregoing report on the foreign trade in musical instruments in China, Deputy Consul-General Gauss prepared the following paper on Chinese music:

The Chinese claim for their music the greatest antiquity. According to their annals, music was invented by the Emperor Fuhsi some three thousand years before the Christian era. At that time, however, music was not regulated by any laws, nor were the instruments of a complicated kind. But under the Emperor Huangti, 2,700 B. C., the art of music made important progress, a certain note was chosen as keynote, the sounds were fixed and received names, comparisons were drawn between the notes and the celestial bodies of the universe and music became a necessity in the state, a key to good government. After Huangti his successors took pride in practicing music and composing hymns, and the post of music master was considered the highest dignity in the Empire.

Confucius spoke of music in the highest terms of sincere admiration, and recommended it as the best medium for governing and guiding the passions of men.

Chinese accounts describe ancient music as beautifully sweet and harmonious, but they give no idea of what it was like. Tsin-shih-Huangti, 246 B. C., ordered the destruction of all books, and as music books and instruments were included, the tradition of music was lost. Subsequent emperors, especially Yuen Tsung, 720 A. D., and Kangshi, 1721, made great efforts to revive music and bring it back to its old splendor, but the discussions and contradictory theories of various writers put the whole system into confusion, and caused the art of music to sink to the lowest rank.

CHARACTER OF MUSIC.

Chinese music is written, like the language, in vertical rows of characters from right to left. The value of the notes or their length can not be ascertained, as rests, pauses, etc., are seldom indicated, and there is no division into bars. The Chinese use no chromatic scale, and they have nothing resembling our sharps, flats, etc.—that is, signs which in a piece of music sharpen or flatten certain notes.

The best Chinese musician can only conjecture the general form of a written piece shown to him for the first time; to be able to decipher it he must hear it played. Therefore, all the tunes are learned by tradition, and are continually modified by the individual taste of the performer, so that after a lapse of time the tunes become quite different from what they were originally, and scarcely two musicians will be found to play exactly the same notes when performing the same piece of music.

Chinese music is divided into two classes, ritual and popular. Under the name of ritual music must be comprehended all music performed at court or at religious ceremonies. Under popular music are grouped all theatrical, ballad, professional, and ordinary street song music. Among a list of selections of Chinese music on a programme I find one entitled "Ta-Pa-Pan" ("The Eight Boards"), supposed to emanate from the pen of the great Emperor Kanghsi, together with the following entitled selections, "Opening the Hand," "The Maid of the Green Willow," "Mother Understands Me Well," "Alone at Home," "Dame Wang," "The Abode of Love," "The Widow's Lament," "Painting Fans," "Breaking the Looking-glass," "Making Verses with a Bird," "The Locust's Fate," "The Seal of Longevity," "The Ladder of Happiness," "The Happy Dream," "The Men who Fear Their Wives," "The Crockery-mender."

CHINESE MUSICAL INSTRUMENTS.

A paper entitled "A List of the Musical and other Sound-Producing Instruments of the Chinese," by A. C. Moule, B. A., Trinity College, Cambridge, has recently been published by the North China Branch of the Royal Asiatic Society in their journal for 1908. The author groups the instruments into three classes—sonorous substances, vibrating membranes, and wind instruments, and describes a vast collection of ancient and present day instruments, including all styles of drums, tambourines, hoop drums, hand drums, rattle drums, war drums, etc.; clappers, rattles, castanets, gongs, bells, flutes, whistles, bamboo pipes, pigeon whistles, whistling tops, reed instruments, small hand organs, free-reed instruments, fiddles, conches, horns, and musical toys, many of them ancient, many of them sacred to the use of the imperial family or religious state ceremonies. Some of them the present-day Chinese orchestral equipment, and no small number merely the signals by which certain corporations of Chinese hawkers announce themselves.

FOREIGN MUSICAL EDUCATION OF CHINESE.

While the missionary and the western educator have been busy spreading Christianity and western learning among the Chinese, some little time has also been given to the introduction of western music. It is interesting to see the drum-and-fife corps, and sometimes even small bands, established in the modern educational institutions of China. Even in the Chinese schools, where the missionary-educated Chinese are rapidly being called as teachers, they are bringing with them the baby organ, to which they have become attached as students.

At a recent graduation-day ceremony at Shanghai in a Chinese girls' school conducted by American women many of the invited guests were surprised at the ease and accuracy with which several young Chinese girls played foreign musical selections on the violin and piano. According to a Shanghai dealer, the Japanese are being employed in large numbers as music teachers in Chinese schools, and they have had much to do with the inroad made by Japan in the musical-instrument trade in all lines.

FEATHER GOODS.

MEXICO.

MANUFACTURED ARTICLES—AMPLE SUPPLY OF MATERIAL.

Vice-Consul-General C. Piquette Mitchell, of Mexico City, makes the following report concerning the trade in goods made of feathers, and the native supply of feathers:

Throughout the Republic of Mexico feather mattresses, pillows, and down coverlets are used to some considerable extent, the customers being principally foreigners, although I believe that the higher class of Mexicans would become good customers for this article if the trade were worked up. At present Mexican pillows are generally stuffed with cotton or wool waste from the factories, but many Mexican families who have visited the United States or other foreign lands have learned the desirability of using feathers. I think hotels could be made good customers for feather pillows if the line were exploited properly. Feather mattresses and feather or down comforters are used to a limited extent by foreign residents.

The local markets supply a large amount of feathers, which are partly consumed for pillows and beds, but these feathers are not sterilized, baked, nor even deodorized, and their unsanitary and altogether otherwise objectionable condition may be imagined. These goods are made up by small shops and private families.

Large quantities of feathers are wasted in this country. During the winter months almost every small pond is covered with wild ducks, and the large lakes abound with geese. Ducks are now sold on the streets in this city for about the same price as chickens, and their feathers might be profitably utilized. It is thought that any house having a representative to travel through the Republic and establish local agents, who would work at low wages, could collect immense amounts of feathers from time to time, and that there is a good field here for an enterprising American firm, who could collect enough to supply the Mexican trade and also a large quantity for export.

The following item is copied from the Daily Record of this city:

> Plans are being completed for the installation of a big poultry and fine feather farm in Orizaba, State of Veracruz. The project is in charge of Mr. Julio Olivo, and the company will invest about $25,000 gold, the plant covering more than 4 acres. Feathers will be treated for market, and feather boas and other articles will be manufactured. Rabbits and pigeons will be raised for the cities of southern Mexico. A number of incubators have already been ordered from California.

CHINA.

METHODS OF PREPARING AND SHIPPING FROM CANTON AND HONGKONG.

Consul-General Amos P. Wilder, of Hongkong, writes as follows concerning the collection, packing, and export of feathers from southern China and Hongkong:

Duck and chicken feathers, generally the former, are collected by Chinese dealers at Canton and Swatow and sent to Hongkong for sale at this port through well-known brokers. The yearly quantity is estimated at about 2,500,000 pounds. There are four grades of duck and two to three grades of chicken feathers exported from Hongkong. They are roughly sorted out and graded as regards cleanliness and appearance. The feathers are plucked from the birds and allowed to dry in the sun, and afterwards sorted out and packed. No especial process is adopted by the Chinese to clean or prepare the feathers previous to export, although they must be fumigated to meet the requirements of the American Public Health and Marine-Hospital Service at this point.

Feathers are packed in 200-pound bales covered with straw-mat bags, and contain 25 to 35 per cent sand and dirt. The feathers are exported to Europe and the United States, but chiefly to England, Germany, and the Baltic-ports. Prices vary according to quality and condition. For duck feathers, 13 to 16 cents gold per pound c. f. i. San Francisco by steamer; for chicken feathers, 4 to 8 cents per pound. The United States takes mainly duck feathers of the best quality, containing about 25 per cent sand. White goose feathers are also exported to the United States to a small extent and are worth 40 cents per pound c. f. i.

American buyers can best become familiar with the Hongkong product by importing a trial order of best duck feathers via San Francisco in order that they may see the cargo in bulk and judge for themselves as to the suitability of the quality for American uses. [A list of Hongkong feather dealers is on file in the Bureau of Manufactures.]

MINING INDUSTRY.

TAHITI.

DISCOVERY OF PHOSPHATE DEPOSITS ON HENDERSON (ELIZABETH) ISLAND.

Consul Julius D. Dreher, of Tahiti, furnishes the following information concerning the discovery of phosphate on an uninhabited British possession in the South Seas:

Henderson Island is about 150 miles northeast of Pitcairn Island, and 300 miles east of Gambier Islands, which are in the Tahiti consular district. According to one of the two men who discovered the phosphate, Henderson is an elevated island, several times as large as Makatea, which has an area of some 10 square miles. The preliminary investigations made on various parts of the island show that there are large deposits of phosphate thereon. It outcrops on the land and was found at several places to extend to a depth of 6 feet, which was as low as the examination was made. Specimens analyzed show that some of the phosphate at least is of a high grade.

Of the other two islands, Ducie is elevated and it is quite probable that deposits of phosphate will be discovered on it.

My informant has sent his report and many specimens of the phosphate to London. He informs me that a thorough survey and examination of Henderson will soon be made.

GERMANY.

COAL PRICES ADVANCED WHILE MINE SURPLUS ACCUMULATES.

Reporting from Plauen, Consul Carl Bailey Hurst says that not a little criticism is heard from both manufacturers and small consumers in that part of Germany about the artificial advance in the price of Saxon coal, the mining companies of which are closely allied with a German syndicate operating largely outside of Saxony. The consul continues:

The lessened production at present in the Plauen industries has been keenly felt at the Saxon mines. The consumption of coal in 1908 was much smaller than during the year previous, when the mines met with difficulty the heavy orders made by the local manufacturing plants. It has now come to pass that coal is accumulating at the pits, with little prospect of its immediate purchase. Not only is there no consequent reduction in prices, but, on the contrary, quotations have gone up for anthracite as well as for the soft brown coal. It is within the knowledge of everyone concerned that the extensive shipments of German coal abroad are sold at much lower prices than are demanded and obtained at home. The provincial press is now discussing this state of affairs and counsels action on the part of the federal government and legislative bodies for a summary righting of the anomaly.

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MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C. May, 1909 No. 344

FOREIGN COMMERCE.

BRAZIL.

TRADE WITH THE UNITED STATES.

CONDITIONS IMPROVING—DECLARED EXPORTS FOR THREE YEARS.

Consul-General George E. Anderson, of Rio de Janeiro, forwards the following report on trade conditions in Brazil, and statistics on declared exports to the United States:

The great decrease in Brazilian imports so notable in the later months of 1908 has continued into the current year. However, the improved price of coffee and the better price for rubber obtained of late have given matters a more promising outlook, though traders in both lines express themselves of the opinion that the improved conditions in both coffee and rubber are but temporary.

The record of declared exports from Rio de Janeiro to the United States for 1908 shows a notable increase over the record of 1907, but still falls far short of 1906. While the list of goods shipped from this district to the United States in 1908 is much longer than that of any other year, the comparative values of exports depend almost altogether upon shipments of coffee, all other goods than coffee in 1908 forming only about 1¼ per cent of the whole.

The total declared exports for the United States from this district for the past three years are as follows:

Articles.	1906.	1907.	1908.
Coffee	$18,415,446	$12,728,762	$16,177,230
Manganese ore	511,142	532,040	117,691
Plants and seeds	6,802	3,018	2,127
Precious stones	6,903	42,513	797
Rubber	25,375	242	....
Sugar	....	....	50,091
Miscellaneous	1,872	1,792	22,522
Total	18,967,540	13,308,367	16,370,458

The appearance of sugar in the list of exports is the result of the operation of the "Colligação," or trust, in Brazil, which provides that a certain portion of the crop each year shall be exported no matter what the price of sugar in the United States may be as compared with the price in Brazil, the sugar noted in the returns having been sold in the United States for almost exactly one-third the price of sugar in the Rio de Janeiro market. The notable increase in the amount of miscellaneous goods is due to exceptional conditions, among them being the completion of work here which required special machinery, which has been returned to the United States, now that the service for which it was required is finished. A considerable quantity of such shipments, also, represent the return to the United States of machines like cash registers, typewriters, phonographic and similar goods for special repairs.

INCREASED SHIPMENTS OF HIDES TO UNITED STATES.

In the face of the generally decreased exports of Brazil in 1908, Consul-General Anderson finds that the exports of hides from Rio Grande do Sul were larger in 1908 than the year before. The statistics follow:

The exports of hides from the port, the chief item in the trade of Rio Grande do Sul, were about 2½ per cent larger than the year before, and other animal products were exported in proportion. The exports of hides for the year, as compared with four years previous, were as follows, no salted hides going to the United States:

Year.	Salted hides, Europe.	Dry hides.		Total.
		Europe.	United States.	
1908	470,719	275,674	20,100	766,493
1907	500,543	235,465	10,000	746,008
1906	447,742	385,378	28,000	861,120
1905	350,409	358,313	14,513	723,235
1904	485,454	366,898	68,886	920,378

About half of the total increase in the shipment of hides in 1908 over 1907 went to the United States, the increased shipments being of dry hides only.

Preliminary work upon the removal of the bar at the entrance to the lagoon upon which Rio Grande do Sul and Port Allegre are situated is well under way, and business in that portion of Brazil already is commencing to feel the impetus.

FOREIGN TRADE STATISTICS.

REVIEW OF IMPORTS AND EXPORTS FOR LAST YEAR.

The Brazilian commercial statistics service has announced the aggregate returns of foreign trade for the year 1908. The total exports and imports compared to previous years were as follows, the amounts representing currency of the United States:

	1906.	1907.	1908.
IMPORTS.			
Merchandise	$161,587,465	$197,227,579	$172,718,946
Specie and foreign bank notes	14,421,609	21,464,287	689,889
EXPORTS.			
Merchandise	258,389,104	263,651,874	214,588,278
Balance of trade	+96,801,639	+66,424,295	+41,869,332

The export of seven staple articles of Brazil for the past two years shows the following variations:

Article.	Quantity.		Value.	
	1907.	1908.	1907.	1908.
Coffee .... bags..	15,680,172	18,250,144	$138,982,680	$112,120,418
Rubber .... kilos..	33,382,681	34,287,014	62,427,102	54,611,785
Tobacco .... do....	29,691,984	14,866,365	6,248,762	4,094,138
Sugar .... do....	12,857,899	29,281,823	660,384	1,410,769
Herva matte .... do....	52,052,747	49,097,884	7,834,645	7,926,764
Cacao .... do....	24,397,249	31,067,890	9,795,272	9,623,294
Cotton .... do....	28,036,281	3,438,817	8,440,978	1,008,268
Total	....	....	234,389,823	190,790,486
Sundry	....	....	29,262,051	23,797,842
Grand total	....	....	263,651,874	214,588,278

RESULTS OF PREFERENTIAL RATES.

REVIEW OF IMPORTS UNDER THE TARIFF CONCESSION TO UNITED STATES.

Consul-General George E. Anderson, writing from Rio de Janeiro, summarizes the results for 1908 of the Brazilian imports from the United States under the special tariff concession:

The year's record for 1908 in the importation of American goods into Brazil which are admitted to the preferential reduction of 20 per cent in the duties is the one encouraging feature of American trade in Brazil for the past year. While there are many indications that the increase of importations of such goods in Brazil, or rather the lack of a substantial decrease in such imports, is due to the increased interest American exporters of such goods are taking in the Brazilian market rather than to the actual effect of the preferential reduction in duties. Such reduction in duties itself has had a favorable effect, this being especially the case with flour. In spite of the fact that the total imports of Brazil for 1908 were about 12 per cent less than those in 1907, and in spite of the fact that the imports of Brazil from the United States in 1908 show a loss of $4,081,785, or about 16.5 per cent, as compared with those of 1907, the imports of goods subject to preferential treatment in 1908 amounted to a total of $2,387,593, as compared with $2,351,326, thus showing an actual gain of $36,267, or about 1.5 per cent.

COMPARATIVE IMPORTATIONS.

This gain is made in the face of the fact that the imports of similar goods from all countries in 1908 showed a decrease of about 5 per cent. The past two years are the only successive years in which these preferential rates have been accorded during the entire year. It will be noted that as between the imports of 1907 and 1908 there was a loss, last year, of imports only in flour and manufactures of rubber, the item of watches remaining practically the same. There was a gain in imports of some items from the United States, though there was a loss in imports of such articles from all countries, and the gain in imports of the United States in some instances was greater than the general gain. In imports of prepared paints, etc., from the United States there was an increase of about 22 per cent in 1908 over

1907, while in imports of such goods from all countries there was a loss of 24 per cent. The loss in the imports of flour from the United States was only about 2 per cent, while the decrease in imports of flour from all countries was about 6.5 per cent. The total imports of goods subject to preferential treatment when coming from the United States are as follows for the years 1907 and 1908:

Articles.	1907.		1908.	
	From all countries.	From United States.	From all countries.	From United States.
Paints	$334,474	$72,749	$405,930	$87,309
Wheat flour	9,508,861	1,937,806	8,893,260	1,910,072
Pianos	278,086	12,875	345,959	25,246
Condensed milk	703,712	22,041	740,615	39,186
Scales	97,256	34,065	84,371	36,951
Windmills[a]	....	....	....	....
Refrigerators[a]	....	....	....	....
Watches	310,918	42,205	221,933	42,061
Clocks	144,090	67,202	138,957	84,960
Manufactures of rubber	502,725	56,913	426,364	46,184
Typewriters	120,359	105,465	128,472	115,624
Total	12,000,481	2,351,321	11,385,861	2,387,593

[a] Not specified in returns.

PIANOS, MILK, AND TYPEWRITERS.

In the item of pianos there was an increase in imports from all countries of about 21 per cent, while the increased importations from the United States were 112 per cent. The advantage of the preferential duty on pianos, on which the duty in Brazil is very high, has been pointed out a number of times in reports from this consulate-general. Heretofore the peculiarities of American pianos, their unusual style, as compared with the European pianos to which Brazilians are accustomed, and the indisposition of local dealers to handle the American instruments have made it difficult to develop this trade. The trade is not yet much developed, but the increased importations during the past year indicate a change in the proper direction.

In the item of condensed milk there was a gain in imports from all countries of about 5.2 per cent and in imports from the United States of about 77 per cent. This gain has been due very largely to a changing course of trade in which a decrease in consumption in the United States has had a part. In scales the United States gained about 9 per cent over last year's trade, while the imports from all countries fell off about 14 per cent. In watches there was a falling off of about 25 per cent in the imports from all countries, while the imports from the United States were substantially the same in 1908 as they were in 1907. In clocks there was a similar record, the United States gaining about 27 per cent, in the face of a loss of trade from all countries of about 3.4 per cent.

In typewriters there was a gain in imports from all countries of about 6.6 per cent, while the gain in imports from the United States was about 9.5 per cent. The preferential, however, seemed to have nothing to do with this gain, since typewriters retail in Brazil for the same price with or without the preferential. The greatest loss the United States sustained in the year's trade in goods admitted to preferential treatment was in manufactures of rubber. The imports of these goods from all countries fell off about 15 per cent, while the imports from the United States fell off about 20 per cent. It is to be noted, however, that the imports of manufactures of rubber from the United States in 1907 were abnormal, as was indicated at the time. The imports of such goods from the United States in 1906 amounted to $39,898, or considerably less than the imports from the United States last year.

PREPONDERANCE OF FLOUR—WINDMILLS AND REFRIGERATORS.

In most of the items covered by the preferential concessions the trade is still so small that its aggregate is not a very material sum in the trade of the two countries concerned. The item of flour is nearly five-sixths of the whole. This trade is reviewed in a special report, but it is evident from the nature of the trade that the preferential tariff reduction has had some favorable influence. This is true also of pianos, scales, watches, and clocks. For various reasons the trade in the other items is not materially affected by the preferential reductions, though the trade is unquestionably stimulated thereby in the added interest they have led American exporters to take in such trade in this field.

In windmill and refrigerator trade there has been some increase of imports from the United States, but this increase can only be estimated and is due to the introduction of such goods in Brazil, where they have been almost unknown until recently. With the increasing knowledge of the use and benefit of such goods in Brazil there will be an increase of trade in them in which the United States will have the largest share because of the merit of its manufactures in such lines independently of any preferential treatment. The need of windmills in the dry regions of northern Brazil and the increasing use of ice and refrigerators in Brazilian cities are likely to lead to material developments in such trade in the near future.

ARGENTINA.

TRADE AND INDUSTRY.

FAR SOUTH REPUBLIC MAKING GREAT STRIDES OF PROGRESS.

Chargé d'Affaires Charles S. Wilson, of the American legation at Buenos Aires, forwards a copy of La Prensa, an Argentine publication, from which the following summarized trade review of the country has been prepared by the Bureau of Manufactures:

The year 1908 was the most progressive period in the history of the Argentine Republic. During the year over 1,000 miles of railroad were constructed and concessions were granted for the building of over 3,000 miles more. The earnings of the railroads increased 20 per cent in spite of the fact that the preceding year marked a notable increase over 1906. The total earnings for 1908 were $101,391,000 (Argentine gold dollar=$0.965 United States currency); the net profits were $40,023,000, or about 5 per cent of the capital invested, which is placed at $788,964,416.

Official statistics for the entire year were not obtainable, but an estimate based on the most reliable information at hand places the imports for the year at $268,119,705 and the exports at $387,429,983.

According to this estimate the imports in the last ten years will have increased $150,000,000 and the exports $200,000,000. A more notable feature of the review discloses that the trade of 1908 exceeded that of the preceding year by nearly $200,000,000. Imports increased over $50,000,000 and exports over $100,000,000 as compared with 1907. These figures speak well of both the purchasing power and the producing capacity of the country.

NUMBER OF CATTLE INCREASING.

There has been a notable increase in the number of cattle since the last official count of the live stock in 1895. At that time there were 21,791,526 head and in 1908 there were 29,116,625 head. As compared with other countries, Argentina ranks third in the number of cattle. Russia, with 91,000,000 head, stands first, and the United States follows with 69,000,000 head.

A noteworthy feature in the stock-raising industry is the improvement of breeds of all classes of animals. In the last cattle census it was found that 3.4 per cent of the entire number were thoroughbreds, and 51.7 per cent were improved crossbreeds. It was also found that many fields that had heretofore been sown to wheat were now devoted to cattle raising on intensive principles of the industry. The value of the cattle of Argentina is estimated at $928,685,834. Diseases of cattle and other live stock have been combated so successfully that the diseases are either stamped out or confined to isolated cases and to small territorial areas.

Considerable uneasiness has been occasioned by the strict British inspection regulations, according to which Argentine live cattle have not been freely admitted into the United Kingdom. As an offset to this restriction on the live-cattle market, a promising trade of cattle on foot has been opened with Spain and Italy.

HORSES INCREASE, SHEEP DECREASE.

The increase in the number of horses has been more marked than in the case of cattle, there being 4,445,859 head of horses in 1895 and 7,531,376 head in 1908. Only 0.7 per cent of the horses are thoroughbreds, and 22.5 per cent are improved crossbreeds. The total value of the horses of the country is placed at $205,826,834. As compared with other countries, only Russia, with 22,000,000 head, and the United States, with 21,000,000, surpass Argentina in the number of horses.

The number of sheep decreased from 74,379,562 head in 1895 to 67,211,754 in 1908, and the total estimated value of the flocks in 1908 was $287,359,076. This decrease is ascribed to the fact that lands heretofore devoted to sheep pastures have been given over either to cattle pastures or to cultivation of crops that are yielding better returns than the sheep industry. Authoritative opinions hold that the number of sheep in all countries in the world has decreased from 400,000,000 in 1873 to 300,000,000 in 1908. Australia is the only country that raises more sheep than Argentina, the number being about 83,000,000. The Argentine wool market underwent an acute crisis during the year, but in the last three months there was a marked improvement. The last clip promises well in both quantity and quality. As a result of breeding, 1.8 per cent of the sheep are thoroughbreds and 82.5 per cent are improved crossbreeds.

AGRICULTURE AND IMMIGRATION.

In 1907 there were 7,446,000 hectares (hectare=2.47 acres) sown to wheat, flax, and oats. This acreage was increased to 8,230,700 hectares in 1908, or about 9 per cent. Some lands that have heretofore grown wheat are now sown to alfalfa, for the purpose of supplying the increasing demands for cattle fodder. These changes are particularly noticeable in the vicinity of shipping ports and centers of population.

An estimate based on the acreage sown places the present crops as follows: Wheat, 5,760,000 tons; flax, 1,228,000 tons; oats, 823,000 tons; and corn, 6,000,000 tons. The total value of all the crops for last year is estimated at $1,045,000,000. The shipments of wheat during the first 11 months of 1908 exceeded those of the corresponding period of 1907 by 1,000,000 tons. Bahia Blanca has surpassed Buenos Aires in its exports of wheat, having shipped 1,025,000 tons in 1908, while Buenos Aires exported 775,000 tons. It is estimated that the value of exports of wheat, corn, flax, and oats in 1908 will aggregate $265,625,000.

Not many years ago the returns from live-stock raising and from agriculture were nearly equal, but within the past few years agriculture has been claiming much more attention, so that exports of cereal products for the first 9 months of 1908 amounted in value to $213,465,029, while the value of the exports of animal products aggregated only $77,402,506. However, this disparity will be considerably reduced by the large sales of wool during the last three months of the year.

Another evidence of the growth of agricultural pursuits was the importation of farm machinery and implements in 1908 to the value of $8,831,512. [The exports of agricultural implements from the United States to Argentina in the calendar year 1908 amounted to $4,976,788, against $3,588,759 in 1907, and $4,703,622 in 1906.]

The immigration into Argentina during the past year passed all previous records. There were 265,000 immigrants, of whom 107,357 were Spaniards, 78,947 Italians, and 6,780 Russians. Only 326 came from North America.

COLOMBIA.

REVIEW OF TRADE.

INCREASE IN IMPORTS AND EXPORTS—TRAFFIC BY PORTS.

In furnishing the following statement covering the imports and exports of Colombia for the year 1908, Consul Isaac A. Manning, of Cartagena, calls attention to the fact that the balance of trade is in favor of the Republic to the amount of $1,484,553.

Ports.	Imports.	Exports.	Ports.	Imports.	Exports.
Arauca	$16,925	$38,726	Santa Marta	$185,890	$923,306
Barranquilla	8,219,127	6,904,964	Tumaco	828,177	1,026,191
Buenaventura	1,340,322	843,166			
Cartagena	2,542,650	4,280,565	Total	13,514,191	14,998,744
Cucuta	281,014	724,678	Total in 1907	12,488,503	13,791,443
Ipiales	37,992	79,586			
Meta	11,663	14,965	Increase	1,025,688	1,207,301
Rio Hacha	50,431	162,597			

PAINT AND OIL IMPORTS.

ATTENTION GIVEN TO PACKING SECURES TRADE FOR ENGLAND.

In response to an inquiry from a New York exporting firm, Consul Manning, of Cartagena, has the following to say about the imports of oils and paints into Colombia via that port:

The importation of paint into Colombia during the year ending June 30, 1907, at the port of Cartagena amounted to 163,160 pounds, according to the records of the custom-house. The statistics for the year ending June 30, 1908, will probably show a slight decrease, especially in the amount from the United States.

In the following statement are given the quantities in kilos (kilo=2.2 pounds) of the imports of paints and oils that passed through the custom-house of Cartagena in 1907, the weights including packing:

Countries.	Paints.	Linseed oil.	Machine oil.	Gasoline.	Varnish.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
United States	34,806	20,989	22,771	3,375	5,708
France	3,086	85	201	....	....
Germany	6,850	2,701	2,121	586	226
United Kingdom	29,267	6,709	12,159	6,667	....
Total	74,009	30,484	37,252	10,628	5,934

DETAILS OF THE TRADE.

From the principal local importers of paints and oils, it is learned that the greater portion of the imports were for use in the interior of the Republic, and that the local merchants buy paints largely in England, claiming they secure them more cheaply from there. This is partly in first cost and then in cheaper packing. One firm buys very largely of iron-oxide paint, which is shipped in iron kegs of 25 pounds each. The paint comes without extra packing, causing a considerable saving in both freight and duty. Paints from the United States are usually packed in tins and then in heavy wooden cases, so there are increased freight and duty charges.

The import duty on paints, prepared or unprepared, varnishes, and enamels is $0.1734 per kilo (kilo=2.2 pounds); on gasoline for lighting purposes the duty is 5 cents per kilo plus surtaxes of 70 per cent and 2 per cent; on gasoline for fuel, 1 cent per kilo plus surtaxes of 70 per cent and 2 per cent; on linseed oil, crude or boiled, 5 cents per kilo plus surtaxes of 70 per cent and 2 per cent. All duties, being specific, are charged on both article and packing, so American manufacturers should endeavor to make packing as light as possible, consistent with security.

The demand for paints is not general here. Most of the old-style houses are of stucco finish inside and out, and use calcimine or lime whitewash throughout. Some modern houses are built of lumber or corrugated-iron buildings and roofing. Gasoline is used for motive power for some launches owned here, although a number of the pleasure boats use kerosene.

[A list of Cartagena dealers in paints and oils is on file in the Bureau of Manufactures.]

CHILE.

SAFES AND VAULTS.

LARGER MARKET AVAILABLE FOR AMERICAN GOODS.

Writing from Valparaiso, Consul Alfred A. Winslow says that there should be a good opening in Chile for American safes and vaults if the trade were well worked, as the merits of American-made goods are generally recognized. He gives some trade particulars:

In the rebuilding of the city of Valparaiso more attention is given to the matter of fire protection, which calls for vault doors and fittings. From the following table giving the value of the imports of these manufactures it will be seen that the business is growing steadily:

Countries.	1905.	1906.	1907.
Germany	$17,870	$29,439	$23,089
Great Britain	23,035	32,114	50,129
United States	1,627	4,450	6,303
Other countries	2,653	3,328	5,599
Total	45,185	69,331	85,120

The only effective way to go after this business is to send good men into the field to study the conditions and appoint agents. These men should speak Spanish and be given plenty of time to work the field well. It is a country it will pay to thoroughly cultivate, for the outlook for development is bright.

A few cheap safes are made in Chile, but it must be several years before the better grades can be made in this country. The duty on safes is 35 per cent on a valuation of $21.90 per 100 kilos, or 220 pounds.

For the information of the trade there is forwarded a list of firms in position to represent American houses in this line. [The list is obtainable from the Bureau of Manufactures.]

CANADA.

ADVANCE TRADE RETURNS.

SUMMARY OF RESULTS FOR PAST YEAR—DEPLETED STOCKS.

Consul Harry P. Dill, of Orillia, furnishes the following advance summary of the foreign trade of Canada for last year:

The total exports from Canada for the year ending December 31, 1908, amounted to $247,630,909, an increase of $9,615,352, or 4 per cent, over the year 1907. The amount of exports to Great Britain was $133,625,624, an increase over 1907 of $15,794,624, or 13.4 per cent. The export to the United States was $82,662,340, which is $9,621,160, or 10.4 per cent less than the previous year.

The general increases in exportation were in agricultural products of $18,515,544; fish, a little less than $1,000,000, and manufactures, a little over $1,000,000. Decreases were $6,780,380 in forest products, $2,509,573 in animal products, and $1,597,600 in minerals.

The decrease in merchandise imported for consumption amounted to $83,477,324, or 22.8 per cent, as compared with the imports of the previous year of 1907. The customs receipts were consequently reduced by about $12,000,000. This would indicate that all imported stocks must have become very nearly exhausted, and that during the next few months importations must of necessity be heavy. It would seem that the United States trade should reap the benefits of this shortage if American traders are active in starting their agents and salesmen at once.

EXPORTS TO AFRICA.

DIRECT STEAMSHIP CLEARANCE FOR SOUTHERN PORTS.

Consul Frederick M. Ryder, of Rimouski, furnishes the following information concerning the cargo of the steamer which cleared from St Lawrence ports recently for South African ports:

When the steamship left her last Canadian port (Halifax) she had a full cargo of 5,000 tons of miscellaneous merchandise, consigned to importers in South Africa, 1,450 tons of which were discharged at Cape Town, 600 tons at Port Elizabeth, 800 tons at East London, 1,450 tons at Durban, and 700 tons at Delagoa Bay.

This shipment included 35,000 casks of flour, weighing 1,750 tons; 3,615 cases of Quaker oats, 1,525 cases of condensed milk, 893 boxes of butter, 241 boxes of cheese, 25 casks of rolled oats, 402 bags of peas, 635 packages of meats (50 tons), 30 packages of lard, 4,868 barrels of apples, 68 prize Merino sheep for stock purposes, 2,946 pieces of pitch-pine timber, 8 carloads of white-pine lumber, 150 standards of spruce deal ends, 124 packages of agricultural implements and parts thereof, 970 rolls of printing paper (300 tons), 960 reels of wire, 5 cases of organs, 171 tons of mining machinery, 5 crates of windmills, 20 crates of wheelbarrows, 160 egg cases and fillings, 8 bundles of iron pipe, 48 crates of chairs, 55 casks of tanning extract, 75 barrels of plaster, 9,400 staves, 276 packages of boiler tubes, 1 case of organ benches, 364 bales of binder twine, 17 crates of carriages, 140 packages of carriage stock, 186 cases of plows and parts thereof, 6 automobiles, 2 bales of cotton duck, 190 kegs of hog casings, 4 cases of yeast, 166 packages of machinery, 1,285 bundles of leather, 2 cases of cut tobacco, and a number of other packages containing a variety of articles.

ENCOURAGING CANADIAN-AFRICAN TRADE.

The Canadian-South African Line (the Elder-Dempster Company) maintains regular steamship service between Canadian and South African ports, with sailings every three weeks. During open navigation on the St. Lawrence River these steamers run up to Montreal, the final clearance being from Halifax, which is the winter port of the line.

The company extends every facility to Canadian shippers in order to encourage direct exportations to South Africa; manufacturers and exporters, their agents and commercial travelers, are tendered free passages, samples are conveyed without expense, and other privileges are extended for the round trip between Canada and Cape Town.

The results accomplished the past year would indicate that exporters generally had availed themselves of the advantages offered by the company.

MEXICO.

IMPROVED CONDITIONS IN SONORA.

REVIVAL OF BUSINESS LOST DURING YAQUI OUTBREAK.

Consul Louis Hostetter furnishes the following information concerning the revival of business in Hermosillo and that part of the State of Sonora since peace with the Yaquis has been established:

Steps have been taken by government officials and the chamber of commerce to create confidence and open up old business relations with sections of the State which transferred their business to other points on account of the impossibility of securing freighters during the Yaqui troubles.

The town and vicinity are livening up and making improvements, repainting buildings, arranging to improve properties that are in poor condition, and sending out announcements to country merchants to reestablish trade.

A company of local capitalists who some time ago laid out an addition to the town have let a contract to grade the streets, macadamize the roadways, lay cement sidewalks, and plant trees on every street; also to erect a few residences of concrete block, machinery for the same having been ordered from the United States. An American architect has been engaged to lay out this subdivision, and the houses are to be built on American plans.

NEW MOUNTAIN ROADWAY AND DRIVING PARK.

The governor of the State has ordered that a driveway be built to the top of the Cerro de la Campana, a mountain about 1,500 feet high, on the outskirts of the town. The road is to be wide enough for pedestrians and carriages, and seats are to be placed at all convenient points along the route. From the top of the mountain a splendid view of the surrounding country is to be had, and on clear days the Gulf of California and the Tiburon Islands are clearly visible, although 90 miles away.

The chamber of commerce is agitating the building of a driving park, also the establishment of annual fairs to represent the progress of the State in mining and agriculture, etc. In fact, improvements are going on at every hand; the people are looking forward to better times; the town has a more prosperous look than it has had for years; and merchants say that, with the Yaqui trouble ended, it will not take them long to recuperate their losses, and they are correspondingly happy.

MINING, WATER SYSTEM, AND SEWERAGE—AMERICAN SETTLERS.

Mining will be given a big impetus by the opening up of some very rich mining country, heretofore impossible to prospect on account of the Yaquis. Americans engaged in mining are coming in daily and leaving for the mountains.

The governor of the State informs me that, having the Yaqui trouble settled, steps will be taken at once to make improvements in the water system of the town; its capacity is to be doubled, and, if possible to secure finances, the sewerage system and the market house (surveys and plans for which have already been made) will now be completed. Should the sewerage system and the market house be definitely decided upon there will be an opportunity for American builders to compete for the work. Due notice from this office will be given as soon as any steps are taken in this connection. Large numbers of Americans are beginning to settle in the Yaqui River valley districts, and as they are mostly farmers who are going to develop the land, a big demand for American agricultural machinery and farming implements will be created.

MANUFACTURING PLANTS—TRADE OF GUAYMAS.

A new brick plant has just been established, with machinery secured from the United States. They are at present turning out 30,000 bricks daily and claim they can double their output if trade demands it. One of the hotels is being entirely renovated and furniture and plumbing goods therefor have been ordered from the United States. The owners of the Las Cruces cotton mill, located 30 miles from Hermosillo, intend making additions to their plant and have made arrangements with ranch owners to increase their output of cotton.

Guaymas, situated on the bay of the same name, is the second city of importance in the State of Sonora. The harbor is perfectly landlocked, and as its depth at low tide is from 14 to 20 feet, it admits of the entrance of large vessels.

The scenery surrounding Guaymas is very attractive, and some day it will make a popular winter resort for pleasure seekers from the north, as the climate is very mild and equable, especially so from the month of October until May. Fishing, hunting, sea bathing, and boating are among its greatest attractions.

At the present, being headquarters of the Sonora Railroad, whose offices are at this point, and the town of Empalme, where the shops of the railroad are situated, being only 9 miles distant, Guaymas has quite a large American population.

INDUSTRIES AND TRADE.

The business of Guaymas is done by 15 wholesale and retail establishments, 3 drug stores, 3 hotels, 3 banking houses, 1 printing establishment, and 1 large bottling establishment. Besides these there is a salt company, which is a large exporter, and a company which manufactures wire nails, doors and sash, furniture, matches, castings of all kinds, and deals in lumber, bar and sheet iron, heavy hardware, plumbing and electrical supplies, most of the material used in its factories coming from the United States. The company is also owner of the ice plant and the electric-light plant, which supplies the city with its lights.

One of the merchants is a large importer of merchandise from the United States, mainly hardware, agricultural implements, packing-house products, and canned goods. He is also a large exporter of tomatoes and garbanzos. The remainder of the business houses claim to import from the United States one-fourth to one-third of the amount of their merchandise. Guaymas being a port of entry has a custom-house, wireless telegraph station, and marine hospital. [The addresses of the large importers from the United States and the local manufacturers referred to are on file in the Bureau of Manufactures.]

FOREIGN TRADE REVIEW.

LARGE DECREASES IN IMPORTS AND EXPORTS AND THE CAUSES.

The official returns showing the foreign trade of Mexico for the six months ended December 31, 1908, record decreases in imports and exports as compared with the six months ended December 31, 1907, are given by Minister of Finance Limantour. The following statement shows the imports and exports during the six months of both years and the recorded decreases, the values being reduced to gold dollars:

Six months ending December 31—	Imports.	Exports.		
		Precious metals.	Other than precious metals.	Total.
1907	$61,280,605	$35,404,308	$28,229,068	$63,633,376
1908	36,195,469	27,379,558	26,921,838	54,300,896
Decrease	25,085,136	8,024,750	1,307,730	9,332,480

Minister Limantour accompanies the trade review with the following comment:

> In the matter of foreign trade, particularly the import trade, perturbing causes do not make themselves felt immediately, owing to the considerable time required for the manufacture and shipment of goods ordered, and, as is natural, the curtailment is observed first in the imports coming from the United States, owing to the proximity of that country and facility and frequency of communications.
>
> During periods of depression the consumption of foreign goods diminishes on a larger scale than that of domestic goods and as a general rule imports become slack when exportable articles decline in price. If, in our case, imports have shrunk on a more considerable scale than the value of the exports, that is due to the large stocks of foreign goods that were on hand when the stagnation set in, owing to years of constantly increasing sales. For the same reason we may look for a resumption of imports in proportion as those stocks become exhausted.

AMERICAN EXPORTS TO MEXICO.

The exports from the United States to Mexico during the six months ended December 31, 1908, amounted to $22,798,213, against $32,190,706 for the six months ended December 31, 1907, a decrease of $9,392,763. Taking the imports into Mexico for both periods, as given in the official returns, and it is seen that the exports from the United States in 1908 were nearly 63 per cent of the Mexican imports for that period, while the exports from the United States in 1907 were less than 53 per cent of the Mexican imports in 1907. Therefore a much larger relative decrease in the imports into Mexico during the six months ended December 31, 1908, occurred in the imports from other countries than in the imports from the United States.

PORTO RICO.

TRADE AND INDUSTRIES.

BENEFICIAL EFFECTS OF AMERICAN INFLUENCE IN THE ISLAND.

The following extracts are taken from an article on the trade and commerce of Porto Rico, by Charles T. Mason in Dun's Review and from Government statistics:

> What has been primarily conducive to increased industry in Porto Rico is the practically unlimited market in the United States for the tropical products of the island. Improvements in agriculture have in turn stimulated road and railroad construction. The increased purchasing power of the people is shown by the constantly increasing imports into the island. Another feature of the new régime is the intelligent interest that is taken by Porto Ricans in the economic development and welfare of the country.
>
> Under the tuition of practical American agriculturists and the government experiment station at Mayaguez, improved methods of cultivation are coming into practice, the standard crops of the island, sugar, tobacco, and coffee, are improved, and many new crops are giving promise of remunerative returns. The raising of lemons gives great promise for the future.

The following tables, showing the commerce of the island for 1908 as compared with that of 1907, are compiled by the Bureau of Manufactures from figures furnished by the Bureau of Statistics.

AMERICAN IMPORTS AND EXPORTS.

In the following statement are given the imports into Porto Rico from the United States, and the exports from the island to the United States for 1907 and 1908:

Articles.	1907.	1908.
IMPORTS.		
Agricultural implements	$31,016	$22,597
Animals	84,892	5,905
Books, maps, etc	252,731	124,492
Breadstuffs	1,793,626	1,791,111
Candles	124,422	108,488
Cars, carriages, automobiles, etc	736,656	535,144
Chemicals, drugs, medicines	320,055	303,875
Bituminous coal	222,802	264,036
Cotton manufactures	3,172,185	3,383,092
Earthen and stone ware	54,949	48,729
Explosives	36,288	44,918
Fertilizer	242,987	256,869
Tags, cordage, and twine	130,522	139,090
Fish products	498,579	382,646
Fruits and nuts	94,882	96,010
Glass and glassware	111,411	94,411
India-rubber manufactures	58,665	61,762
Instruments, scientific	210,238	107,807
Iron and steel manufactures	3,931,134	2,580,609
Leather manufactures	854,017	643,295
Meat and dairy products	2,505,163	2,378,401
Mineral oils	268,410	302,394
Paper, manufactures of	236,645	259,222
Rice	3,596,920	3,776,626
Soap	323,218	389,039
IMPORTS—continued.		
Spirits, wines, malt liquors	$321,832	$241.261
Sugar, refined	276,025	435,542
Vegetables	494,908	453,895
Woods and manufactures of	1,431,279	998,294
All other articles	2,436,361	1,954,506
Total	24,852,818	22,184,066
EXPORTS.		
Cotton:		
Manufactures of	56,944	51,750
Raw, sea-island	50,350	44,100
Fruits	1,034,931	992,569
Hides and skins	95,423	48,867
Iron and steel manufactures	116,678	155,661
Perfumery and cosmetics	18,439	81,046
Molasses	453,458	278,719
Sugar, brown	15,229,427	16,896,804
Tobacco:		
Manufactured	3,966,836	3,924,562
Unmanufactured	1,460,508	1,447,910
All other articles	318,002	364,193
Total	22,800,996	24,286,181

While the imports from the United States have decreased over $2,000,000, the exports to that country have increased about $1,500,000.

TRADE WITH OTHER COUNTRIES.

In the following table, showing the trade of the island with foreign countries for 1907 and 1908, it will be noted that there has been a decrease both in imports and exports:

Countries.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
Austria-Hungary	$12,786	$6,902	$631,739	$439,686
Belgium	188,010	59,677	21,434	12,339
France	439,169	307,005	950,537	488,714
Germany	315,005	256,508	455,698	230,445
Italy	83,175	73,876	270,045	379,838
Netherlands	124,599	103,807	67,736	46,537
Spain	809,565	545,664	788,379	900,776
United Kingdom	317,288	344,839	6,811	44,355
Canada	557,673	605,423	6,382	1,304
Cuba	50,971	33,100	1,639,849	1,571,915
All other countries	582,110	556,376	82,334	126,489
Total foreign countries	3,480,351	2,942,677	4,920,944	4,242,398

FRANCE.

AMERICAN EXPORTS.

DECLARED VALUE OF SHIPMENTS SHOWS A SERIOUS DECLINE.

Consul-General Frank H. Mason, of Paris, in transmitting in advance of his annual report on French commerce and industries a consolidated statement showing the total values of declared exports to the United States from the several consular districts in France, including Algiers, during the calendar years 1907 and 1908, respectively, comments:

It will be seen that, with the exception of Havre and Nantes, every consulate in France shows a more or less important decrease, and the total net deficit amounts to $36,513,547, or slightly more than 28 per cent of the exports of 1907, which had reached the unprecedented figure of $128,768,486. The district of Paris alone shows a deficit of $20,959,188, or more than half the aggregate decrease from the whole of France, and illustrates vividly the effect of the American monetary crisis upon the demand for imported luxuries of clothing, art, and taste in the United States.

The declared values of exports to the United States from the several consular districts in France during the calendar years 1907 and 1908, respectively, were as follows:

Consulates.	1907.	1908.	Gain or loss.
Paris	$63,266,473	$42,307,285	−$20,959,188
Bordeaux	7,524,954	5,395,674	− 2,129,280
Calais	8,775,353	5,859,010	− 2,916,343
Grenoble	2,957,669	1,971,133	− 986,535
Havre	2,088,403	2,289,330	+ 200,927
Limoges	2,191,909	1,694,495	− 496,413
Lyons	15,647,300	11,192,623	− 4,454,677
Marseilles	8,412,335	7,585,777	− 826,557
Nantes	756,439	1,002,286	+ 245,846
Nice	1,461,597	1,120,304	− 341,294
Rheims	$6,926,701	$5,505,773	− $1,420,928
Roubaix	2,684,860	1,803,019	− 831,841
Cognac (La Rochelle)	1,403,502	1,309,743	− 93,759
Rouen	491,743	331,267	− 160,476
St. Etienne	3,524,715	2,409,240	− 1,115,475
Algiers	704,533	477,179	− 227,554
Total	128,768,486	92,254,138	− 36,513,547

RUSSIA.

SUMMARY OF FOREIGN TRADE.

IMPORTS FROM THE UNITED STATES ARE NEARLY DOUBLED.

Consul-General Hunter Sharp, of Moscow, transmits the following report on the foreign trade of European Russia for the first six months of 1908:

The aggregate foreign trade of European Russia given in the customs returns for the first six months of 1908 amounted to $383,328,405, as compared with $373,778,245 for 1907, thus showing an increase of $9,550,160 for the period under review. There was an excess in exports over imports to the value of $6,438,015—a decrease of $27,828,540 as compared with 1907. An increase of $18,687,350 is observed in the import trade and a decrease of $9,139,190 in exports. The increase in imports is principally under the head of raw material and roughly manufactured articles, amounting to $12,872,425, or about 69 per cent of the total. There is also an increase in the importation of manufactured articles of $5,803,020, or 31 per cent. The articles showing the largest increase were: Fruits, liquors, oats, rice, wines, building materials, cotton, coal, coke, fats and oils, hides and skins, lead, arms and ammunition, automobiles, knit goods, machinery, paper and manufactures of, tinware, and woolen goods.

IMPORTS BY ARTICLES.

In the following table are given the principal articles of import into European Russia for the first six months of 1907 and 1908:

Articles.	1907.	1908.
Provisions:		
Dairy products	$398,601	$403,760
Fish	5,621,740	5,466,725
Flour and cereals	164,285	146,260
Fruits	2,019,315	2,562,125
Grain	3,990,220	2,556,035
Liquors	903,310	1,124,245
Tobacco	480,495	537,060
Wines	1,968,845	2,447,180
All other provisions	12,451,679	12,707,120
Total	27,998,490	27,951,110
Raw and partially manufactured materials:		
Building materials	331,145	608,215
Caoutchouc	4,818,965	6,582,730
Chemicals	3,946,445	3,942,840
Coal and coke	4,859,540	6,050,220
Colors and dyestuffs	2,674,910	2,624,955
Copra	2,030,180	2,001,805
Cotton, raw	21,151,565	35,807,950
Fats and oils, animal	1,653,665	2,461,700
Furs	2,069,270	1,782,930
Grinding and polishing materials	320,380	332,175
Hides and skins	2,289,690	3,001,420
Iron:		
Pig	31,930	43,775
Bars, sheets, and rails	566,500	555,685
Jute	1,658,815	1,438,910
Lead, pig	1,640,790	2,201,110
Leather	2,697,570	3,482,430
Lumber	2,564,185	2,289,175
Oil, vegetable	1,124,030	1,011,460
Rosin	577,830	632,935
Silk, raw	4,545,390	4,295,100
Steel, bar, sheet, rails	201,880	180,765
Tin	2,260,335	1,418,310
Wire	420,025	565,985
Wool, raw	7,507,155	6,055,370
Raw and partially manufactured materials—Continued.		
Yarn:		
Cotton	$2,291,750	$2,285,055
Woolen	5,205,620	3,385,610
Other raw materials	18,140,396	10,408,665
Total	92,574,855	105,447,260
Manufactured articles:		
Agricultural implements	242,055	217,045
Arms and ammunition	353,805	604,095
Automobiles	528,390	833,830
Bicycles, and parts	547,960	493,370
Buttons	396,550	371,315
Cast-iron ware	331,660	384,190
Carriages	63,345	116,905
Ceramics and pottery	241,475	196,730
Clocks and watches	488,220	461,955
Clothing	400,670	386,765
Copper, manufactures of	1,031,520	1,028,970
Cotton goods	2,110,985	2,186,690
Cutlery	564,955	625,210
Electric apparatus	451,130	456,805
Furniture	633,450	697,310
Glassware	418,030	443,415
Gold and silverware	486,160	468,500
Hats and caps	215,785	285,310
Iron and steel ware	1,947,215	1,810,225
Leather goods	737,995	773,530
Machinery:		
Agricultural	6,181,030	7,748,690
Compressors	20,600	62,315
Dynamo, electric	269,345	619,545
Engines, gas and naphtha	517,060	930,605
Locomotives	32,445	80,340

Articles.	1907.	1908.
Machinery—Continued.		
Metal-working	$540,235	$803,400
Meters, gas and water	14,420	17,510
Milling	74,260	119,995
Paper mill	21,115	6,180
Parts of machinery	1,464,650	1,728,855
Printing	269,860	206,000
Pumps	271,465	616,445
Sawmill	36,150	43,775
Sewing	2,325,225	1,708,770
Steam engines	401,185	765,805
Steam hammers	12,360	25,750
Transformers	45,835	78,795
Typewriters	116,390	172,010
Woodworking	90,640	135,960
Novelties	1,261,750	1,148,300
Optical goods	819,365	838,420
Paint and varnish	$177,160	$169,435
Paper, and manufactures of	3,913,485	4,113,820
Porcelain and crockery	219,905	232,265
Rubber goods	271.405	328,055
Silk goods	959,960	802,885
Stationery supplies	262,130	335,265
Tinware	1,141,755	1,809,645
Tools, hand	1,177,805	1,160,810
Umbrellas and parasols	32,960	17,510
Wooden ware	142,140	153,985
Wire, manufactures of	603,580	603,065
Woolen goods	2,641,950	2,937,045
Other manufactures	10,531,595	11,997,175
Total	49,047,570	34,850,590
Total imports	169,755,845	188,445,195

DECREASE IN EXPORTS.

The falling off in exports occurred principally in provisions, the figures being $7,059,620 or 77 per cent of the aggregate. Raw materials and roughly manufactured articles also show a decrease of $2,812,930, or 32½ per cent. The leading commodities showing a decrease were: Bran, dairy products, eggs, Indian corn, wheat, cement, copper, flax, furs, hemp, hides and skins, iron ore, manganese, pig iron, rubber waste, wool, cotton goods, musical instruments, rugs, silverware, and woolen goods.

The following table gives the principal articles of export from European Russia for the first six months of 1907 and 1908:

Articles.	1907.	1908.
Provisions:		
Barley	$15,816,165	$20,903,850
Bran	5,330,250	4,433,120
Dairy products	9,681,485	8,369,265
Eggs	12,044,305	11,133,785
Indian corn	11,659,025	9,159,790
Oats	8,110,085	3,502,030
Rye	7,660,625	9,676,335
Flour, rye	808,550	1,388,440
Sugar	1,493,500	5,374,540
Tea	44,805	46,350
Tobacco and cigarettes	778,680	878,075
Wheat	30,584,820	17,213,875
Flour:		
Rye	808,550	1,388,440
Wheat	985,195	811,125
Other provisions	4,490,345	3,957,745
Total	105,296,385	98,236,765
Raw and partially manufactured materials:		
Asbestos	174,070	212,180
Bones	854,320	349,685
Bristles	1,282,350	1,108,645
Raw and partially manufactured materials—Continued.		
Celluloid	$454,745	$218,875
Downs and feathers	556,715	542,295
Fertilizers	93,730	67,465
Flax	22,375,720	20,548,500
Furs	5,638,735	2,659,975
Glycerin	47,380	30,900
Gum resin	139,050	126.175
Hair, animal	385,735	354,320
Hemp	3,730,620	3,109,570
Hides and skins	3,820,785	1,495,560
Lumber	18,446,270	21,545,025
Naphtha products	7,285,190	7,683,800
Seeds	3,541,655	5,068,115
Steel, bar, sheet, rails	1,112,915	1,688,170
Wool, raw	846,660	478,950
Yarn:		
Linen	311,575	228,660
Hemp	98,365	102,485
All other	16,675,740	16,945,045
Total	87,372,325	84,559,395
All other articles	11,353,690	12,087,050
Total exports	204,022,400	194,883,210

GERMANY AND ENGLAND CONTROL BULK OF TRADE.

Taking the trade by countries for the first six months of this year, Germany and Great Britain supplied more than half of the total imports and took more than half of the total exports. In imports Germany's share was 40 per cent, Great Britain's nearly 16 per cent, while the United States contributed only a little over 14 per cent. As to exports, Germany took about 32 per cent of the total and Great Britain 20 per cent, only 3 per cent going to the United States.

Reviewing the American trade of European Russia for this period, the customs returns show the balance of that trade to be in favor of the United States to the value of $26,275,300, the imports and exports being $26,862,915 and $587,615, respectively. Comparing the trade for the first six months of this year with the corresponding period of last year, there is shown a gain in imports of $10,229,960 and a falling off in exports of $781,770.

The very small amount of exports to the United States figuring in the customs returns is misleading on account of many shipments being sent via British, German, and Danish ports, thereby being credited to the trade of those countries instead of to the United States. The same is true of the import trade. Many of the imports from the United States coming through Great Britain, Germany, and Denmark are accredited to those countries.

IMPORTS AND EXPORTS BY COUNTRIES.

Country.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
United States	$16,632,955	$26,862,915	$1,369,385	$587,615
Austria-Hungary	5,584,145	5,958,035	11,167,775	13,625,870
Belgium	2,113,045	1,638,610	10,150,650	7,710,065
China	3,689,460	3,737,355	245,140	178,705
Denmark	1,490,925	2,727,955	6,128,500	6,852,075
East India	3,284,670	4,074,165	232,265	155,530
Egypt	3,966,315	4,326,515	923,910	1,182,955
France	7,280,040	6,708,905	15,014,825	13,599,605
Germany	74,481,875	75,685,430	62,540,870	61,893,215
Great Britain	24,964,625	29,808,715	46,546,215	39,061,205
Holland	2,222,225	3,464,920	19,820,290	17,120,145
Italy	4,059,745	3,617,865	7,186,825	4,956,360
Norway	1,197,875	1,252,995	1,133,000	1,863,785
Persia	37,080	40,170	17,510	26,780
Portugal	305,395	631,905	44,805	2,575
Roumania	691,145	548,575	3,277,460	3,721,390
Spain	491,310	535,600	125,660	1,200,465
Sweden	2,175,360	2,487,450	1,445,090	836,360
Switzerland	1,119,610	1,324,065	(not reported)	
Turkey	1,336,425	1,491,955	3,455,650	5,171,630
Other countries	5,314,485	4,699,290	3,768,985	3,746,625
Total	162,438,210	181,623,390	194,594,810	183,492,965
Finland	7,317,635	6,821,805	9,427,590	11,390,255
Total	169,755,845	188,445,195	204,022,400	194,883,210

GERMANY.

TRADE WITH LATIN AMERICA.

LINES OF MERCHANDISE EXCHANGED WITH LATIN AMERICA.

Consul Robert J. Thompson, of Hanover, writes that manufacturers of the United States who are looking to Latin America for markets would do well to take note of the trade which the Germans have already developed with those countries. He continues:

In 1906 Germany sent to America 1,705 ship cargoes in German bottoms, of 4,961,135 registered tons. Of these cargoes 822 were for Latin American ports. There were brought away in the same year 1,124 cargoes, with ships of 3,783,104 registered tons, 625 of these cargoes being from Latin-American ports. Not the least important feature of this foreign trade is that the carrying is done principally by the German merchant marine, thus supplying a large source of revenue to the country's shipping interests, which work hand in hand with the manufacturers.

In the following statement are given the values, in marks (mark = 23.8 cents), of the principal articles of export from Germany to four leading Latin-American countries, and also of the principal articles of import into Germany from the same countries for the year 1907:

Exports and imports by countries.	Values.
EXPORTS FROM GERMANY TO—	
Argentina:	*Marks.*
Cotton cloth	8,900,000
Electric cable	5,700,000
Glass	1,700,000
Hosiery	2,800,000
Iron and steel—	
Bolts, nuts, etc	1,500,000
Iron sleepers (ties)	9,200,000
Pig iron	5,800,000
Steel rails	8,600,000
Wire	4,900,000
Jewelry, gold	8,100,000
Locomotives, yard	2,100,000
Paper	1,600,000
Pianos	2,100,000
Strings for musical instruments	1,800,000
Sugar, beet	6,100,000
Tools, machine	1,500,000
Toys	1,800,000
Woolen goods	6,200,000
Zinc	1,500,000
All other articles	97,300,000
Total	179,200,000
Brazil:	
Cement	2,200,000
Cotton cloth	7,500,000
Cutlery	1,700,000
Dyes, aniline	1,600,000
Electric cables	1,200,000
Glass	900,000
Hosiery	1,300,000
Iron and steel—	
Iron ware	1,200,000
Steel rails	1,600,000
Tubes, iron	1,200,000
Wire—	
Barbed	1,100,000
Drawn	1,900,000
Jewelry, gold	6,500,000
Kitchen ware	1,700,000
Leather, kid	900,000
Locomotives	1,500,000
Paper—	
Printing	1,100,000
Writing	900,000
Photographic supplies	1,000,000
Sewing machines	2,900,000
Shot, stoves, etc	1,700,000
Tacks, polished	1,000,000
Toys	1,200,000
Woolen goods	2,700,000
All other articles	57,600,000
Total	104,100,000
Chile:	
Cars, railway	1,500,000
Cement	1,500,000
Cotton cloth	7,000,000
Electric supplies	800,000
Hosiery	3,000,000
Jewelry, gold	1,900,000
Kitchen ware	1,000,000
Locomotives	2,200,000
Railway supplies	2,000,000
Sewing machines	900,000
Shot, stoves, etc	1,100,000
Woolen goods	5,900,000
All other articles	56,000,000
Total	84,800,000
EXPORTS FROM GERMANY TO—	
Mexico:	*Marks.*
Cement	1,500,000
Coke	1,000,000
Cotton cloth	1,600,000
Cutlery	1,000,000
Dyes	1,200,000
Dynamos and motors	600,000
Electric cables	800,000
Glassware	1,100,000
Hosiery	1,800,000
Jewelry, gold	3,900,000
Kitchen ware	800,000
Lace, cotton	1,000,000
Netting, woolen	800,000
Pianos	1,000,000
Shot, etc	600,000
Steel rails	2,800,000
Toys	1,200,000
Woolen goods	1,800,000
All other articles	34,200,000
Total	58,700,000
IMPORTS INTO GERMANY FROM—	
Argentina:	
Animal intestines	2,600,000
Bran	20,500,000
Corn	26,800,000
Flaxseed	73,500,000
Hides	34,100,000
Lucerne	4,100,000
Lumber	13,200,000
Oats	5,100,000
Pelts	8,000,000
Wheat	133,400,000
Wood, log	5,000,000
Wool	112,600,000
All other articles	3,600,000
Total	442,500,000
Brazil:	
Cocoa	9,800,000
Coffee	97,500,000
Hides	21,700,000
Rubber	39,600,000
Tobacco, raw	14,300,000
All other articles	13,100,000
Total	196,000,000
Chile:	
Bran	1,500,000
Borax	1,400,000
Iodine	1,400,000
Leather, sole	1,800,000
Saltpeter	127,100,000
Wool	4,600,000
All other articles	6,100,000
Total	143,900,000
Mexico:	
Coffee	4,000,000
Cotton, raw	2,000,000
Hides	700,000
Lead	500,000
Minerals	1,200,000
Oil cake	200,000
Raw material for brushes	1,200,000
Rubber	4,900,000
Sisal	2,300,000
Tobacco	2,000,000
All other articles	2,700,000
Total	21,700,000

The total values, in marks, of the trade of Germany with the following countries are given for 1907:

Countries.	Imports into Germany.	Exports from Germany.	Countries.	Imports into Germany.	Exports from Germany.
	Marks.	*Marks.*		*Marks.*	*Marks.*
Bolivia	21,500,000	8,800,000	Ecuador	14,000,000	5,100,000
Guatemala	24,500,000	....	Cuba	11,600,000	24,000,000
Uruguay	22,600,000	33,400,000	Colombia	11,100,000	6,800,000
Venezuela	15,700,000	5,800,000	Panama	100,000	....
Peru	14,800,000	17,700,000	Santo Domingo	11,000,000	....

CRETE.

COMMERCIAL IMPORTANCE.

STATISTICS OF FOREIGN TRADE—CURTAILED OLIVE CROP.

Consul-General George Horton, writing from Athens, says that the large and fertile island of Crete is an important province commercially and agriculturally and, properly developed, should be one of the garden spots of the earth. He tells of the island's foreign trade:

Crete imports principally cotton thread, various cloth goods, agricultural products, wood for barrel making, worked metals, medicines, tanned leather, sugar, coffee, pottery, esparto, etc. The exports consist principally of olive oil, agricultural products, wood and lumber, almonds, animals, soap, cheese, wines and liquors, silk cocoons, etc. The steady increase in the exportation of cocoons and raw silk shows that the Cretans have commenced to give serious attention to silk culture.

The total Cretan importations during the three years ending with 1907 amounted to 53,200,648 francs (franc=19.3 cents), and exportations to 40,582,450 francs. The statistics by years are as follows:

Year.	Exports.	Imports.
	Francs.	*Francs.*
1905	11,224,449	15,185,075
1906	17,391,009	19,270,053
1907	11,906,952	18,751,520

The exports for 1909 will probably show a marked falling off, on account of the failure and poor quality of the olive crop. In ordinary years from 30,000,000 to 40,000,000 okes (oke=0.3513 gallons) of oil are produced, while this season the entire yield will amount to only about 3,000,000 okes. There are about 4,000,000 okes on hand from last season's output.

ASIATIC TURKEY.

BEAN EXPORTS FROM SMYRNA.

IMPORTANCE OF THE TRADE—COUNTRIES TO WHICH SHIPPED.

In noting that within the past few years beans have become an important item of export from Asia Minor, the more so as prices have steadily risen, owing to the marked diminution of the Egyptian crop, Consul-General Ernest L. Harris writes from Smyrna:

Until recently Egypt produced 20,000 to 25,000 tons of beans annually, but the higher prices paid for cotton have caused their cultivation to be abandoned for that of cotton growing. The quantities of beans exported from Smyrna during the past few years have been, in tons, as follows: 1904, 23,970; 1905, 14,165; 1906, 19,385; 1907, 9,780; 1908, 29,760, or an average of 19,415 tons.

Last year's exports, in tons, were to the following places: Portugal, 9,388; France, 6,833; Great Britain, 6,721; Italy, 6,208; Malta, 510; Germany, 100; total, 29,760. Last year's prices ranged from $3.19 to $3.39 per 100 kilos (220 pounds).

CHINA.

TRADE OF DALNY.

INCREASE IN IMPORTS AND EXPORTS DURING THE PAST YEAR.

The following statistics covering the imports and exports of the Manchurian port of Dalny for the first nine months of 1907 and 1908 are furnished by Consul Roger S. Greene:

The following statement shows the value of the imports and exports of Dalny for the quarter ended September 30 and the first nine months of the year 1908, compared with the corresponding periods of 1907:

Description.	September quarter.		First nine months.	
	1907.	1908.	1907.	1908.
Imports	$4,291,945	$2,850,051	$10,438,307	$12,954,717
Exports	625,543	1,350,209	5,006,984	8,398,951
Total	4,917,488	4,200,260	15,445,291	21,353,668

The foregoing statement shows that the exports for the quarter ended September 30, 1908, were more than double the value of those for 1907, which was apparently due to the good crops of the year and the extraordinary fall in the silver price of beans—from $2.06 in September, 1907, to $1.25 in September, 1908, and to 96 cents at the close of November per picul (133⅓ pounds), which stimulated the demand from Japan. It was recently estimated that ordinarily the value of bean cake and artificial fertilizers consumed in Japan is about $20,000,000 of each per year, while in 1908 the value of bean cake alone consumed up to the end of October was as much as $35,000,000, while the consumption of artificial fertilizers amounted to only $10,000,000 for the same period. The low silver prices also caused increased exports to Chinese points. In addition to 1,300 tons of beans exported to Liverpool, as reported previously, another shipment of 9,000 tons, understood to be for the same destination, is now being made, and there has been an inquiry made even from the Pacific coast of the United States for beans, bean cake, and bean oil.

IMPROVED TRANSPORTATION—FORMATION OF A PRODUCE EXCHANGE.

An important factor in the increase of exports has been the improvement of transportation since last year. Not only have the inland waterways been in excellent condition, but the South Manchuria Railway, which last year could bring down only about 2,000 tons a day to Newchwang and Dalny, can now deliver daily at the two ports 3,500 tons. Last year also there were repeated washouts during the summer, which completely interrupted traffic for weeks at a time. This year, though there was some trouble, no such serious obstruction was caused. There are now arriving at Dalny by train on an average 3,000 tons of freight every day, as compared with about 1,500 last year.

On October 23, 1908, an organization was formed called the Juyobussan Torihikishonin Shugosho, or "Produce Exchange," and there are now 73 members, of whom 56 are Chinese firms and 17 Japanese. A small room in one of the buildings at the wharf has been set apart for the exchange, and as bargains are made the terms are marked up on a blackboard. The transactions recorded at the exchange during the month of November amounted in round numbers to 1,094,000 yen in the silver notes of the Yokohama Specie Bank, which form the medium for all such business here, or about $443,000 in United States currency. In the case of bean cake the purchasers were almost all Japanese, whereas the beans have been largely bought by Chinese for shipment south. While this is only a beginning, the natural development of such an institution here seems to augur well for the future of trade at this port.

IMPORTS BY ARTICLES.

The following statement shows the value of the imports by principal articles into Dalny for the first nine months of 1907 and 1908:

Articles.	1907.	1908.
Building materials:		
Lumber	$717,062	$808,046
Cement	477,007	223,479
All other	603,582	4,360,714
Total	1,797,651	5,392,239
Cotton goods:		
Piece goods	1,290,366	1,008,018
Yarn	156,231	183,702
Drugs, dyes, and spirits	34,797	93,526
Flour	641,142	311,921
Fruits and vegetables	126,403	119,149
Liquors:		
Saki, etc	181,490	230,980
Beer	163,075	161,990
Machinery	1,295,898	480,651
Metals:		
Iron, iron sheets, and wire	$115,264	$175,752
Iron manufactures	811,895	479,894
Copper	100,161	4,763
Metal goods other than the above	190,994	34,834
Oil, kerosene	106,782	84,342
Paper and books	88,724	189,425
Rice	462,348	617,892
Sugar	109,843	101,240
Tobacco:		
Cut and leaf	75,617	24,038
Cigars and cigarettes	176,895	563,537
All other articles	2,513,281	2,696,824
Total imports	10,438,307	12,954,717

HONGKONG TRADE DEPRESSION.

STATISTICS FOR LAST YEAR SHOW A LOW COMMERCIAL RECORD.

A review of the foreign trade of the British colony of Hongkong has been made by the Telegraph, of that city, of which the following are the main points, the dollar used referring to the Hongkong silver coin, which had an average value in 1908 of 41.7 cents:

> The course of events in the commercial world of the colony during the past year presents, with a single exception, a dismal record of trade depression, business stagnation, and loss generally to those engaged in the different branches of trade with Europe, America, and China. The single exception has reference to cotton yarn, and the revival in the healthy tone of this most important article of commerce is a happy augury of the revitalizing power of Chinese merchants and traders. In round figures, Indian yarn distributed via Hongkong throughout South China and Tongking amounted to some 220,000 bales in 1908. At an average price for all counts of $112.50 per bale, we arrive at an aggregate $24,750,000 as the value of cotton yarn imports into Hongkong in a normal year.
>
> The prohibitory edict of the Chinese Government has been responsible for an enormous appreciation in the value of opium, the rise being something like

25 per cent in the case of the Bengal drug and 30 per cent in the case of the Malwa article. With consumption maintained at its normal level it was not surprising that the gross value of the trade rose from $27,700,000 in 1907 to $41,038,320 in 1908. Those engaged in the flour trade with the Pacific coast have an unsatisfactory record to look back upon for 1908; for with flour below the parity of wheat in the local market the trade failed to secure any profits.

Of the 1908 crop of Java sugar, the exact quantity exported to Hongkong from May 1 to November 30 amounted to 1,401,162 piculs, equivalent to 85,074 tons, showing a decline of 116,528 piculs as compared with the corresponding period for 1907. These figures tell their own tale as to the seriousness of Japanese competition. The rice imports from Siam are said to amount to 5,000,000 piculs (picul = 133⅓ pounds) in 1908, of which 1,500,000 is "white" and 3,500,000 "cargo" rice, aggregating $22,250,000. The result of the trading, according to best reports, has been just fair. At no time in the year did freight maintain a paying level to shipowners. The exploitation of the Bornean coal fields is yet in its initial stage, and the experimental shipments to Hongkong have not demonstrated the possibility of successful competition with the cheaper products of Japan. In sugar and rice merchants have not made any fortunes.

As regards the stock exchange, brokers agree in the opinion that the year has been the very worst in the whole course of their experience. There was a complete absence of forward purchases and sales. Shares changed hands only for investment purposes. Some of the leading stocks show serious depreciations, amounting to millions of dollars. The outlook for the new year is enshrouded in uncertainty, and it is not safe to predict anything like a more hopeful prospect for the near future than the immediate dismal past.

JAPAN.

DECREASED FOREIGN BUSINESS.

BALANCE OF TRADE IS HEAVILY AGAINST NIPPON.

From a London Times article, dated at Tokyo, January 4, the following extracts are taken:

In common with nearly all the other countries in the world, Japan's foreign trade was not prosperous during 1908. It suffered a diminution of about $21,900,000, or 12 per cent of the total trade. In 1908 the imports amounted to $208,000,000, while the exports amounted to a little more than $183,000,000, leaving a balance against Japan of about $25,000,000. The Japanese nation regards an unfavorable balance of trade with much aversion. When the customs returns are published, at the expiration of each period of ten days, the share market responds appreciably, falling for an excess of imports and rising for an excess of exports.

An almost unlimited market is offered abroad for Japan's raw silk. In the first eleven months of 1908 there were exported of that article 22,250,000 pounds, as compared with 19,000,000 for the corresponding period of 1907. However, for the larger sales of 1908 only $46,231,750 was received, as against $53,531,500 for the sales of 1907. Great Britain and France were good customers in the purchase of habutae and in silk handkerchiefs, but the demand in the United States showed palpable diminution. A marked though not very important feature of the export trade was that England, France, Germany, and the United States all reduced their purchases of Japanese porcelains, lacquers, and bronzes by a total of over $973,000, an effect of the depressed conditions prevailing in those countries. It was in the column of exports to China, however, that the trade suffered most conspicuously, for here there was an aggregate falling off of $12,166,000. In copper and coal the same phenomenon was witnessed as in the case of raw silk, namely, larger quantities sent abroad than in 1907, but smaller sums realized. This was especially true of copper, the quantity exported having been greater by 3,000 tons and the amount received smaller by $3,893,200. The export of cotton yarn, for which China is the chief market, fell off by about $4,866,000.

IMPORTS OF TEXTILES AND METALS.

In the import trade one salient feature was the diminished demand for raw cotton and wool, owing to inactivity of the mills in Japan. The bulk of the raw cotton is supplied by British India, and here a decrease of $9,733,000 is recorded.

In wool Australia is the chief sufferer, her sales falling from $2,920,000 in 1907 to $437,983 in 1908. A noticeable feature in the imports of iron and steel is that Great Birtain shows decreases, while increases stand to Germany's credit. The same feature is noticeable in several branches of piece goods and in leather, one explanation being that German local merchants took orders on very easy terms or made speculative imports. They suffered in consequence, and some houses had to close their doors. The only line in which Great Britain has a really good record is that of machinery and engines; in this article imports stand at nearly $9,733,000, against $6,489,000 in 1907. In rails and iron nails Great Britain is quite surpassed by the United States and Germany, and in locomotive engines and rolling stock by the United States. In spite of the depressed condition of commerce during 1908, Japan's purchases of machinery, locomotives, and rolling stock amounted to $17,033,000, as against $13,383,000 in 1907.

The year 1909 opens with a feeling of some buoyancy. Since the early autumn of 1908 it has been felt that the worst was past and that emergence from the acute stage had commenced. Prices are still falling, the demand for money is small, and trade is comparatively depressed. But it is thought that if only the good harvest of 1908 be repeated the second half of 1909 will witness a wave of prosperity.

AMERICAN-ORIENTAL COMMERCE.

MERCHANDISE TRANSPORTED VIA THE PACIFIC AND THE SUEZ.

The following information concerning the merchandise traffic between the Orient and America is furnished by Vice-Consul-General E. G. Babbitt, of Yokohama:

The shipping traffic on the Pacific is yearly increasing on account of the development of trade with Japan and China. Returns issued from trustworthy quarters according to the Yokohama Daily Boyeki, show that in recent years goods transported from British India to America over the Pacific amounted to 250,000 tons annually; from Japan to America, 500,000 tons; from China to Hongkong, over 500,000 tons; from the Philippines, about 60,000 tons; from all other countries in the East enough to make the total annual shipments over the Pacific 1,500,000 tons. On the other hand, only 400,000 tons are shipped to America via Suez.

It is further stated that the goods from America to the Far East amounts to about 1,000,000 tons per annum.

During the year 1908, 22 steamships cleared from Yokohama for the United States via Suez. These vessels, as a rule, do not carry passengers. Of these 22 steamers, 20 were British, of a gross and net tonnage of 95,736 and 61,283, and 2 were German, of a gross and net tonnage of 10,879 and 5,706. [The official report of the Japanese Mercantile Marine for 1908, which accompanied the foregoing statistics, is on file in the Bureau of Manufactures.]

TRADE WITH PANAMA.

DECREASE OF EXPORTS FROM YOKOHAMA DURING THE PAST YEAR.

The following information concerning the exports of Japanese products to Panama during the past year is likewise furnished by Vive-Consul-General Babbitt:

This digest of this consulate-general shows that the trade between Yokohama and the Republic of Panama for 1908 has decreased over $50,000 from that of 1907, or nearly 60 per cent. This great decrease, I am inclined to believe, is partly due to the requirement that invoices be made out in the Spanish language. Shippers have advised me that it was extremely difficult to secure anyone capable of preparing invoices in Spanish, and the cost of translations made it unprofitable for them to continue shipments to Panama, when they can ship to points in the Canal Zone with invoices in English.

There should be a steady demand for Japanese silks and porcelains, as well as the miscellaneous goods generally designated "curios," and it is trusted that the year 1909 will show an increase of exports from Yokohama.

The following statement shows the value of the invoices declared at the consulate-general of the United States at Yokohama for export to Panama during the calendar year 1908:

Articles.	Value.	Articles.	Value.
Anabi	$137	Pictures	$122
Bamboo and rattan ware	445	Porcelain	5,267
Cloisonne	272	Provisions	201
Cotton goods	3,338	Screens	167
Curios	878	Silk goods	18,120
Glassware	126	Skin	62
Grass cloth	175	Toys	267
Ivory goods	156	Umbrellas	167
Lacquer ware	996	Woodenware	799
Leather goods	269	Woolen goods	60
Matting and straw goods	218	All other articles	2,013
Mushrooms	39		
Metal wares	1,066	Total	35,834
Paper goods	474		

STRAITS SETTLEMENTS.

SINGAPORE CONDITIONS.

PRICES AND SHIPMENTS OF PRODUCTS OF EAST INDIES.

A London Financial Times report from Singapore, dated January 11, characterized the year 1908 as exceptionally dull. Some extracts from the trade review follow:

At the commencement of the year prices had touched bottom. Gambier, for instance, was quoted at $6.70 Straits Settlements currency ($1 of which is worth 56.5 cents), and is now about [illegible]; co[illegible]80 and is now at $8.20; tin was at $62.50 and is now around about [illegible] $67.

In 1908 there was a fall in the quantity of tin shipped to Great Britain of nearly 37,000 piculs (picul=133⅓ pounds), but a slight increase in quantity shipped to America, and of over 17,000 piculs to the Continent of Europe, should bring the shortage over 1907 to about 16,000 piculs.

Exports of copra continue to furnish satisfactory returns, again showing an enormous advance over previous years and establishing a record for at least the last half decade. There has been an increase of some 90,000 piculs in the quantity shipped to Great Britain and to the Continent of Europe, the United Kingdom receiving something like 63,000 piculs more than in 1907 and the Continent of Europe importing about 30,000 piculs over the quantity of 1907. During 1903 only 5,041 piculs of copra were exported from Singapore to Great Britain. Last year's figure was about 90,000.

A fall has to be noted in respect to the export of gambier, practically all of which is received in Singapore from the State of Johore. It will probably be found when the figures are complete that there is a decline of 18,000 piculs. Against this there has been a continued increase in the export of black and white peppers, which has exceeded the 1907 figures by about 87,000 piculs, the Continent of Europe taking 41,000 piculs more of the black variety than in 1907, and the United States importing 30,000 piculs above the quantity in 1907.

The pineapple industry is feeling acutely the competition of other countries. Tapioca is beyond the previous year's output, save in the number of piculs shipped to the Continent of Europe, while the export of gutta is not so satisfactory. Sago maintains a firm average and shows an upward tendency. Piece goods show no improvement in a dead market, and the share market is almost a myth at the present moment.

CEYLON.

TRADE OF THE COLONY.

IMPORTS AND EXPORTS, AND PRICES OF NATIVE PRODUCTS.

From the Ceylon Chamber of Commerce Weekly Price Current for the week ending December 31, 1908, transmitted by Consul William C. Teichmann, the following statements have been prepared showing the trade of the colony for the calendar year 1908:

The following statement shows the quantities of the several products imported into Ceylon during the year 1908:

Articles.	Quantities.
Coal:	
United Kingdom..........tons..	255,692
India..........do....	358,860
Other countries..........do....	46,726
Total..........do....	661,278
Cotton piece goods:	
United Kingdom..........bales..	2,933
Do..........packages..	10,974
Other countries..........bales..	1,722
Do..........packages..	6,186
Iron:	
Hoop..........cwts. (112 pounds)..	25,527
Corrugated..........do....	31,549
Nails and rivets..........do....	14,018
Total..........do....	71,094
Manure:	
United Kingdom..........do....	65,167
India..........do....	725,423
Continent..........do....	175,924
Tin boxes:	
Japan..........number..	1,347,191
Other countries..........do....	616,905
Kerosene oil:	
Bulk..........gallons..	3,225,091
Cases..........do....	652,482
Total..........do....	3,877,573
Oil liquid fuel..........do....	1,939,359
Wines and spirits..........do....	294,101
Timber:	
Teak..........tons..	5,595
Other..........do....	774
Lamps, crockery, and hardware, value..........	$443,000
Matches..........cases..	6,603
Cement..........barrels..	64,524
Umbrellas..........cases..	1,266
Sugar:	
China..........hundredweights..	80,299
Other countries..........do....	165,222
Tin, lead..........tons..	1,596

EXPORTS OF CEYLONESE PRODUCTS.

The following statement shows the exports of native products from Ceylon during the years 1907 and 1908, and the quantities of the several products exported to the United States during the latter year:

Articles.	Total exports.		Exports to the United States in 1908.
	1907.	1908.	
Black tea..........pounds..	169,923,623	167,089,011	10,193,550
Green tea..........do....	5,526,563	5,216,805	3,305,935
Rubber..........do....	530,908	831,905	230,396
Coffee..........do....	....	119,820	2
Cinchona, branch and trunk..........do....	....	168,184	....
Cocoa..........hundredweights (112 pounds)..	88,180	55,831	778
Cardemoms..........pounds..	....	665,217	7,581
Cinnamon, bales..........do....	....	3,066,636	822,400
Cinnamon, chip..........do....	....	2,678,503	135,830
Cocoanut oil..........hundredweights..	460,683	629,122	153,309
Copra..........do....	347,970	729,140	....
Cocoanuts..........number..	....	20,509,824	6,040
Desiccated cocoanuts..........pounds..	....	26,486,222	4,471,901
Poonac..........do....	....	288,827	....
Plumbago..........hundredweights..	614,156	489,388	155,605
Coir:			
Rope..........do....	....	17,414	....
Yarn..........do....	....	104,793	1,980
Fiber..........do....	....	168,848	4,459
Ebony..........do....	....	3,603	....
Citronella oil..........pounds..	....	1,276,965	515,520
Cinnamon oil..........ounces..	....	283,978	10,000

The following statement shows the prices of native products during the last week of 1908:

Articles.	Prices.	
Cardamoms:		
All round, pared, well bleached........per lb..	$0.353 to	$0.405
All round, pared, medium, per pound................	.324	.357
Special assortment, 0 and 1 only............per lb..	.373	.422
Seeds................do....	.292	.324
Green ....do....	.324	.357
Cinchona bark, per unit of sulphate of quinine............		.016
Cinnamon (in bales of 100 pounds net):		
Ordinary assortment, per pound....................	.133	.136
Nos. 1 and 2 only...per lb..	.147	.156
Nos. 3 and 4 only ....do....	.121	.126
Cinnamon chips (in bags of 56 pounds net), per candy of 560 pounds.........................	17.842	18.166
Cocoa:		
Estate—		
Finest, per cwt. (112 pounds)..............	13.654	14.598
Medium, per cwt. (112 pounds)..............	11.354	13.624
Common, per cwt. (112 pounds)..	8.110	11.354
Native, per cwt. (112 pounds)................	9.732	10.539
Cocoanut, desiccated (coarse, 10 per cent; fine, 50 per cent; medium, 40 per cent).per lb..		.567
Cocoanut oil, in ordinary packages, f. o. b.........per ton..	134.626	135.430
Citronella oil (ready)..per lb..	$0.230 to	$0.240
Copra:		
Boat.per candy of 560 lbs..	19.140	19.464
Cart ..:..............do....	18.491	18.815
Ebony:		
Sound, at government depot ....per ton..		42.372
Inferior..............do....		30.196
Fibers:		
Cocoanut bristle, No. 1, per cwt....................	2.595	2.758
Cocoanut mattress, No. 1, per cwt		.486
Cocoanut mattress, No. 2, per cwt..................		.519
Coir yarn kagala, No. 1 to 6 ....per cwt..	2.595	3.892
Coir yarn, Colombo No. 1 to 6.............per cwt..	2.757	3.973
Rubber:		
Biscuit or sheet....per lb..	1.054	1.184
Scrap................do....	.649	.940
Crepe, No. 1 to 4.....do....	.973	1.200
Plumbago:		
Large lumps......per ton..	64.880	214.104
Ordinary lumps .....do....	64.880	218,968
Chips................do....	48.660	155.712
Dust.................do....	16.240	121.650
Dust, flying ....do....	12.976	58.392
Sapanwood..............do....	11.352	12.976
Satinwood:		
Sound ....per cu. ft..		2.303
Inferior ....do....		1.492
Flowed..............do....	2.303	5.450

The following statement shows the average prices of the several grades of tea exported in 1908, per pound:

Description.	High grown.	Medium.	Low grown.
Broken pekoe and broken orange pekoe..	$0.181	$0.159	$0.133
Orange pekoe..	.191	.152	.120
Pekoe	.149	.133	.104
Pekoe Souchong...	.139	.107	.094
Pekoe fannings..	.156	.107	.094
Broken mixed dust, etc..	.129	.081	.075

FREIGHT RATES FOR CEYLON.

The following statement shows the freight rates, per ton of 2,240 pounds, from Ceylon to the principal ports of Europe and to New York for the last week of 1908:

Articles.	London and Liverpool.	New York.	Marseille.	Antwerp.	Hamburg and Bremen.	Genoa.
Rubber	$12.16	$13.99	$12.16	$10.95 to $12.16	$12.16	$12.16
Tea	7.29	8.51	7.29	7.29	7.29	7.29
Coffee, cocoa, cardamons, cinnamon, bales..............	7.29	7.29	6.68	6.68	6.68	6.68
Plumbago............	6.08	6.68	5.47	5.47 6.08	5.47 to 6.08	6.08
Cocoanut oil	6.08	6.68	5.47	5.47	5.47	5.47
Cocoanuts, in bags...	4.26	6.08	3.65	3.65 4.86	4.86	4.86
Copra	6.68	7.29	5.47 to 6.08	6.08	6.08	6.08
Poonac...............	6.08	7.29	5.47	5.47	5.47	5.47
Desiccated cocoanuts.	6.08	7.29	5.47	5.47	5.47	5.47
Hides and skins	8.51	7.29	7.29 7.90	7.90	7.90	7.90
Fiber, pressed, bales..	4.86	6.08	4.86	4.86	4.86	5.47
Palmyra fiber, bundles................	6.68	7.29	6.08 6.68	6.08	6.08	6.08
Broken stowage......	3.04	As arranged.	2.43 3.04	2.43 3.04	3.04	3.04
Other cargo	6.68	7.29	6.68	6.68	6.68	6.68

AUSTRALIA.

COMPARISON OF TRADE RETURNS.

COMMONWEALTH CONTINUES TO SHOW EXCESS OF EXPORTS.

Consul-General John P. Bray, of Sydney, sends the information that the total trade of the commonwealth of Australia for 1908 amounted to $550,882,445, or $55,715,405 less than for the year 1907. Some of the details follow:

Whereas in 1907 the excess of exports over imports amounted to over $102,145,598, last year this excess was reduced to $75,844,343, and as Australia's yearly payments to the mother country for interest, dividends, etc., approximate $68,000,000, the balance of trade in Australia's favor was considerably lessened. The exports of gold from the commonwealth, however, in the year 1908 were $16,687,383 more than during 1907. A comparison of the imports and exports for the past nine years is given in the following table:

Year.	Imports.	Exports.	Excess of exports.
1900	$201,164,407	$2[redacted]77	$22,190,770
1901	216,539,783	2[redacted]95	24,963,612
1902 (drought year)	205,208,167	2[redacted]22	8,224,155
1903	188,742,414	2[redacted]44	45,753,130
1904	179,921,292	2[redacted]46	99,460,254
1905	186,365,112	2[redacted]30	69,882,318
1906	217,672,431	3[redacted]56	121,550,625
1907	252,226,126	3[redacted]24	102,145,598
1908	237,519,051	3[redacted]94	75,844,343

Interstate trade during 1908 was fairly well maintained, and figures for the year show a falling off of only about $10,000,000. New South Wales suffered to the largest extent both in its imports from and exports to the other states.

TRADE EXTENSION.

INFORMATION FOR EXPORTERS.

MEXICO.

WHAT AMERICAN FIRMS SHOULD DO TO HOLD AND ENLARGE TRADE.

Consul W. D. Shaughnessy, of Aguascalientes, in supplying the following information concerning the mistakes made in shipping goods to Mexico, reports that the points discussed have been, on many occasions, brought to his special notice, and that they demand the serious attention of American firms exporting goods to Mexico:

One of the most serious and important complaints made by local merchants against business houses of the United States is the failure to acknowledge orders promptly. In talking the matter over with two grocery merchants of Aguascalientes, both stated that they had ordered goods to be shipped by express from two of the most prominent pickle and preserve manufacturers of the United States, and had received four months later replies stating that the orders had just been filled and the goods were being sent by freight. In the meanwhile, these merchants, not having received an acknowledgment to their orders, placed them with other firms either in Mexico City or England. Whether or not these American firms were overrun with home-trade orders, it should be remembered that their foreign trade can not be overlooked or slighted if they wish to hold it.

Merchants have stated to me that American firms might not be able to supply the goods when ordered, but they condemn the inattention shown their orders when their letters are not even acknowledged and no reasons given for delays.

Another serious complaint is the substitution by jobbing houses of one class of goods for another "just as good," which has upon several occasions resulted in the local merchants refusing to receive shipments on arrival or, after paying the customs duties and other charges, being compelled to keep in stock goods which can not be sold. This treatment by American houses only tends to discredit them, and invites criticism from the local merchants that ends in their placing orders in Europe.

The Republic of Mexico has an American population of about 20,000, which is gradually increasing, hence American firms do not have to consider the wants and tastes of the Mexicans alone. It is to be creditably noted that American goods and styles are swiftly finding favor among the Mexicans, and American houses should make an effort to comply with Mexican requirements, looking toward this Republic as among the largest markets in the world for their goods, and lead them to control its future trade in clothing, suit materials, groceries and canned goods, preserves, dry goods, shoes, hats, hardware, agricultural implements, mining machinery, furniture, etc.

AGENCIES—PACKING AND SHIPPING.

It has been the practice of many reputable houses in the United States to give the sole agency for their goods to one firm in Mexico City, thus making it necessary for merchants in other cities of the Republic to go to the agent with their orders, knowing that he is making a commission of at least 5 per cent. They are able to buy at regular wholesale prices from the agent, but the fact that it gives him the precedence over them because he handles the sole article makes them feel that they want the same advantage, especially when they are not located in the same city. This is continued by prominent manufacturers of tooth powders, soaps, drugs, talcum powders, and patent medicines, and the practice only tends to decrease the sales of these popular articles because merchants outside the city refuse to handle them under such conditions.

There are also many complaints made against American packing, although within the past year some of the houses dealing with Mexico seem disposed to comply with the conditions and requirements of the trade in this respect. Several American houses dealing in breakfast foods, etc., use pasteboard boxes for the outside packing. This results in the shipments arriving here broken and generally of little or no value. Glassware and other breakable materials should be protected from rough handling.

European exporters, although charging for their packing, ship goods in strong, light wooden boxes, iron strapped, and in more compact form, thus saving extra expense of freight and loss by breakage. Goods intended for transport by boat, subject to sea air and water, should be packed in tin-lined boxes; this especially applies to silk and dry goods.

MEXICAN CUSTOMS REGULATIONS.

Care should be taken to clearly describe the contents of packages, giving gross, net, and legal weight. Packages containing goods with yardage, such as cotton and linen cloth, carpets, rugs, etc., should show the length and width in meters, while silk goods and woolen materials are appraised by weight.

Care should be taken to fully describe the contents of a consignment on the invoice, and the neglect to procure a consular invoice prior to shipping results in a fine of the payment of double duties upon arrival in Mexico.

The Mexican customs tariff charges on nearly all articles by the legal kilo (2.2046 pounds). The legal weight of an article accepted under appraisement by the Mexican customs is the weight of the article, together with its immediate packing, i. e., in the weight of a package containing 1 dozen collars in a pasteboard box the box is included.

The Mexican tariff, appraising articles by their weight, necessarily makes the duty charges on some very high and out of proportion to their value. For example: A 4-ounce cake of soap, costing 5 cents in the United States, pays a duty of about 10 cents Mexican (the same as the original cost), and retails in this city at 35 cents Mexican, or 17½ cents gold, while a 4-ounce cake of cashmere bouquet soap, costing 75 cents gold retail, pays only the same rate of duty as the 5-cent cake, and sells proportionally cheaper than the lower grade, practically leaving a better opening for the higher-grade soaps, which are all imported from France. There is also for this reason a very small market in this district for American perfumes.

RAILROAD FACILITIES—CREDITS AND PAYMENTS.

The railroad facilities within the past year have greatly improved, and at this time, owing to the efficiency in practice, goods are arriving promptly, with small or no loss to the shipments and quicker returns to the consignors.

More railroad lines are in operation and under construction, and districts which have heretofore been compelled to transport goods by burros and wagons are now within easy communication with the United States. Owing to the length of time required to transport goods by steamer as compared with transportation by rail, these facts alone should present to American manufacturers the advantages to be gained over the European houses.

The usual terms of payment allowed by American firms are from thirty to sixty days, with a 2 per cent discount for cash against receipt of invoices. Before the railroads facilitated their transportation ninety days were allowed, but this has been practically discontinued. Foreign firms are in the habit of allowing from three to six months' time, with a 1 per cent per month discount if paid before maturity. There appears to be a difference of opinion as to which is the best, as some merchants claim that with the foreign time payments the quotations are not at the lowest price, whereas others state the prices are lower than American prices and time is allowed them to receive and examine the shipments before remitting payment. It is generally understood that the up-to-date merchants prefer the cash and thirty-day payments, but the old-time merchants prefer to have the opportunity of selling part if not all the goods before remitting.

All notes or legal papers executed in Mexico must bear revenue stamps, and all papers executed in the United States, or abroad, must bear these stamps before action can be commenced in this country. Notes made "to the order of" are not mercantile documents and are not indorsable.

POSTAGE AND PARCEL-POST.

Letters have been received from prominent firms in the United States having a 5-cent stamp in lieu of the 2-cent denomination, showing their lack of knowledge of the postal treaty, and ignorance of the fact that rates of postage are the same in Mexico as in the United States and Canada. American stamps and stamped envelopes have also been inclosed for replies.

One important point in the Mexican postal law is, that the Government does not contract to deliver mail addressed to a city on which the States does not also appear. There are a number of cities of the same name in the different States, and a failure to write the name of the State, as well as the city, relieves the Government of responsibility for its delivery. A parcel-post treaty between the United States and Mexico is in force, and much can be saved in shipping small articles by mail instead of sending them by express.

TRADE REMEDIES SUGGESTED.

It has been noted that a number of the American manufacturers of patent medicines have been bottling their goods in Mexico, thus taking advantage of the lower rate of duty on shipments in bulk. Bottled goods call for a higher rate of duty, and it might be well for American manufacturers of bottled goods to either ship in bulk and have them put up in Mexico, or cater to the export trade by canning them. This is easily possible in such articles as olives, jams, preserves, maraschinos, etc., and allows a lower appraisal under the tariff than for articles put up in glass. It also tends to decrease the liability of breakage.

American firms should by all means send competent salesmen, thoroughly conversant with the Spanish language, and fully acquainted with the customs and tastes of the people, at least once a year, to show their samples. The houses they represent should not expect their men to rush through and approach the merchants in a brusque, hurried manner, as this mode of procedure is not countenanced here. Salesmen should in all cases be courteous, in a position to await the pleasure of their customers, and to gain their confidence before proceeding to business. Samples should also be carried, as the Mexican merchant will pay little attention to catalogues, and desires to see the goods displayed and their qualities thoroughly explained to him.

As the laws in regard to commercial travelers are different in the several States, it would be well for American houses to inquire into them, for in a great many cases a license must be obtained, or a small tax paid, before a salesman is permited to solicit business. [A book on "Commercial Travelers" may be obtained from the Bureau of Manufactures. It contains not only the laws of the various Mexican States on this subject, but also of all other countries.]

The appearance of a well-equipped, Spanish-speaking salesman making a personal call on the Mexican merchant, as well as on the American customer, creates the impression that the house he represents is sincere in its endeavors to interest the buyer, and a sale thus solicited is possible where otherwise it would go unnoticed.

A CLEARING HOUSE FOR AMERICAN GOODS.

American houses that feel they are unable to send representatives to Mexico might possibly combine together to rent a large space in Mexico City, or some other large city in the republic, for the purpose of displaying their samples, placing competent men in charge to demonstrate the qualities of their goods and take orders. This could be a general clearing house for all classes of American goods, and would in my opinion prove profitable. Many Mexican merchants from the different cities would be glad of the opportunity to visit it, to see new lines, and to place orders, whereas under the present conditions many American manufacturers are unable to market their goods in Mexico because they are unable to show their qualities.

Considering Mexico as a field for American goods, splendid opportunities are held out to manufacturers, who will find no trouble in doing business in the republic, provided they adhere to the customs requirements, pack their goods well, and send competent salesmen to show and demonstrate their lines to the merchants, as American articles are preferred by the Mexicans to a large extent.

American exporters will find that if they cater to the trade with Mexico, with the same consideration and as well as they do with Europe, the neighboring republic holds out to them one of the largest markets in the world. [A list of firms dealing in American goods in the Aguascalientes district is filed in the Bureau of Manufactures, where it may be consulted by interested firms.]

TRADE OF DURANGO.

SALE OF AMERICAN MANUFACTURES CAN BE LARGELY INCREASED.

The following information concerning trade and trade conditions in the Durango district of Mexico, and how the sales of American products can still be increased therein, is furnished by Consul Charles M. Freeman:

While it is true that American exporters have a large trade in this district, probably more than one-half the imports thereof, it is equally true that large quantities of imports which come from Europe could, with proper efforts, be supplied by the United States.

The business of this district depends wholly upon mining and agriculture. Much American mining machinery is used here, but many mines are owned and operated by Americans, to which may be attributed the demand for mining machinery manufactured in the United States. To secure new business, not only in mining supplies but in all other departments of trade, it is almost absolutely necessary to have a man on the ground who understands the language, the customs, the habits, and the business methods of the Mexican people.

A practical illustration has recently been given in this district of success in securing business. The agent of an acetylene light plant house, well grounded in all the points mentioned above, put the first plants in on approval; he stayed with them, gave practical demonstrations of their utility, showed the cost of running, etc. As a result he has secured a good business for the houses he represents and given full satisfaction to the purchasers. This case, coming under my personal observation, is mentioned as showing the right method to be pursued to win success.

The American commercial agent who comes here lacking knowledge of the Spanish language and of Mexican business, expecting to secure orders and get out of town on the next train after arrival, will receive but little consideration and no orders. Catalogues in English are kept as a curiosity or consigned to the waste basket; those in Spanish are generally read, but outside of creating a certain desire to see, or rather a desire to know more about the goods, do no particular good as a means of securing new business. Where connections have already been made catalogues are most useful. Catalogues would have more weight if, in addition to being printed in Spanish, they gave the prices of goods delivered.

Houses in the United States selling at retail (mail-order houses) have a good business in this district, which has been secured wholly through catalogues.

CANADA.

HOW TO INCREASE AMERICAN TRADE IN THE DOMINION.

In answer to many correspondents, Consul H. D. Van Sant, of Kingston, Ontario, furnishes the following report concerning the best manner of introducing and increasing American trade in Canada:

It is sometimes a perplexing problem for a consul, in a comparatively small city like Kingston, to establish separate agencies for a number of competing firms, dealing in perhaps the identical line of goods, without showing undue preference or favor to one American firm over the other. As an instance, one capable and alert Canadian agent in this city has sold for an American firm over 50 marine and motor engines during the past year, while another American firm with engines of equal standard and worth, through another agent, supposed at first to be equally active, did not sell more than three or four during the same period.

If American houses seeking trade in Canada would appoint capable American supervising representatives for the larger cities and, through these general agents, alert and hustling Canadians to canvass the smaller cities and country districts, the result usually would be increased sales. Many American firms have already adopted this method or sell through import commission houses in the large industrial centers, and the ranks of the Canadian Commercial Association, Knights of the Grip, and other similar organizations contain a considerable percentage of membership of salesmen for American goods. United States life insurance companies are entering the Canadian field on these lines with gratifying results, notwithstanding the keen competition of home insurance companies of high rating, safety, and capital. American exporters, advantageously and systematically organized, with greater comparative producing power and equipment than like concerns in Canada, can build up an equally large or increased trade.

MAIL ORDERS AND ADVERTISING.

Mail-order business is all right, in a limited degree, and also catalogues, circulars, and magazine advertisements; all these help to prepare the way. The field in this line is pretty well worked by Canadian houses, who are constantly improving their methods, generally after the American plan. Advertisements of specialties in local papers and street cars and signboards are also largely in use by American firms doing business in Canada. But it is a prime advantage for our exporters to exhibit their goods, if practicable, and explain through branch houses or sales agents their comparative price and quality. On an average, American goods are cheaper and superior to those sent here from other countries, and in showing better goods at lower prices lies one of the open secrets of increased sales.

In offering goods, salesmen should come to the point. No misrepresentation will help trade in the end. Stick to the text and avoid references to the tariffs, politics, etc., such subjects taking up time and sometimes proving a hindrance to a big order. Show the customer the goods that give the quickest and easiest turn of profit, leaving political economy and other equally disturbing factors for other minds to wrestle over.

In Canada, as elsewhere, human nature asserts itself and the man who confines himself to business propositions usually secures the best results.

BRITISH AND GERMAN TRADE EFFORTS.

No one expects 1909 to be a phenomenal year in business, though in trade between Canada and the United States it will probably be better than 1908, even if not equal to 1907 and 1906. This should not discourage American exporters from seeking to hold the large share of sales they have secured in the Dominion, or in getting more. Canada is increasing in wealth and material prosperity every day, and careful effort should be made to take advantage of all new trade openings.

A number of instances are known to this consulate where English and German firms established agencies and canvassed for the sale of their goods through painstaking representatives and at considerable special outlay. An apparently large trade was promoted which gave promise of increasing each season, but after the lapse of time business began to be hampered by delayed orders, imperfect fittings, long repair shipments, unsatisfactory payment or terms, and other equally discouraging impediments, and Canadian and American firms, in close personal touch and almost daily intercourse, ultimately broke into a share of this patiently built up trade, diverting it into their own channels.

American fashions and models are largely prevalent and in the line of dress goods, millinery, muslins, ready-made suitings, hats and bonnets, and cotton goods there is a fair chance to increase trade. The American market does the largest share of the business in railroad supplies and mining machinery, boots and shoes, typewriters, machine tools, steel workings, carriages, hardware, automobiles, wire fittings, motor boats and engines, and staple goods generally. Some of these articles get into Canada via England. Along border districts Canadian tastes are becoming individualized and markedly nationalized, partaking more of American characteristics in style and commercial practices at least.

The fact that during the record year of 1907 the imports from the United States amounted to $222,582,510 out of the total Canadian imports of $372,825,353, and that in the Kingston district last year American sales amounted to $1,500,000 out of a total of $2,000,000 of imports, in round numbers, serve to show that the trade relations between the two countries are growing more intimate, and speak well for the commercial possibilities of the future.

ARGENTINA.

PLUMBING SUPPLIES MUST BE APPROVED BY SANITARY DEPARTMENT.

Consul-General Alban G. Snyder, of Buenos Aires, in reply to a New York firm, sends the following report on soil piping used in Argentina:

The soil pipe used in Argentina is 2½-inch and 4-inch pipe, the latter predominating. There is a great deal of competition in the trade, practically every plumber being an importer. One of the largest importing houses here, and dealers in American goods, reports that it imported 6-inch piping some years ago, but the business, being very unsatisfactory, was discontinued. No pipe can be used in drainage until it has been approved and the trade-mark registered with the sanitary department of the municipality, otherwise the inspector will not give his approval to the plumbing when done.

Should inquirers desire it, the requirements in this matter can be secured from the municipality in reference to weight and thickness, which are the most essential points, or this information will be furnished by any of the importers who are also plumbers. Practically all pipe used here at present is English, and sells for $1.40 to $1.80 gold for a 4-inch pipe of 6 feet. [The addresses of importers of piping and fittings are on file in the Bureau of Manufactures.]

ITALY.

HOW MILANESE-AMERICAN TRADE COULD BE LARGELY INCREASED.

The following report, concerning the opportunities for increased sales of American products in the Milan district and for the increased sales of Milanese products in the United States, is furnished by Consul James E. Dunning:

During 1908 this consulate received and responded to a large number of trade inquiries, which were diverted into a department specially designed to give them a reasonably rapid and intelligent treatment. Toward the end of the year their number tended to decrease, the external evidence showing that many such letters are now sent by American manufacturers to the Bureau of Manufactures, Department of Commerce and Labor, at Washington, instead of to the consulate direct, to receive in that way the information filed with the department by the consuls.

A careful study of the trade inquiries received during the year does not tend to break down the belief of the consulate that few American manufacturers who come to the office for information do so with any clear idea of the field itself. An improvement is noticed, but has by no means become general. Important business houses still write to Italian firms in terms of American weights and measures, and with American technical trade abbreviations hard for even the consulate to decipher.

INEFFICIENT TRADE CAMPAIGNS.

Representatives who can not speak Italian are sent into the district in an effort to secure orders against German salesmen who can usually speak even the local Italian dialects in a fairly presentable form and who are never started on a trip in Italy until they have had preliminary training in the methods of the country as attachés of important German importing houses at Milan.

Some of the foremost houses in the United States continue sending catalogues to the consulate printed in English and in terms of American money which are absolutely not worth the cost of the postage when they arrive here.

Business can not be gotten this way; and the consulate feels that it renders a service to American manufacturers when it commends to them a study of those methods which have given German exporters so strong a hold in Europe and the Orient.

It is certainly true that American trade with the Milan district, large as it is, has hardly penetrated the surface. Beside the immense trade in raw cotton, which is bound to hold its place for many years to come, there might well be nearly an equal amount of trade in American machinery and miscellaneous articles, secured by the use of more improved methods, which would take into account the peculiar features of the field.

ITALIAN GOODS IN THE UNITED STATES.

On the other side of the case, there is a large opportunity to develop the sale of Italian goods in the United States—articles peculiar to Italy and the Milan district. Attention might be given this subject with profit.

Many lines of manufactures in the district, already largely exported, are susceptible of a greater degree of production under skillful urging on the part of American buyers. American experts might well come to the district with an idea of working up more of this trade and stimulating the manufacture of goods in certain lines. Italian cheese, candies, mustard, fruits, gloves, and liquors are admirable in quality, and could certainly be turned out in much larger quantities and under conditions better suited to the quick demands of the American markets.

Other lines which might be affected by treatment of this character are certain classes not much made in the United States. These articles might easily be made to figure in the best American trade very much as certain lines of English and French goods now figure. Taking into account their high quality, the consulate sees no reason why stocks of Italian manufacture, properly displayed and advertised, should not be made unusually attractive to American trade.

THE METRIC SYSTEM.

In all correspondence with Italian firms American exporters should remember to use the terms of the metric system, the Italian money system being, in value, the same as the French system. Trade abbreviations should be invariably avoided and every effort for clarity made use of. The Italian language should be used if possible, with French as second choice, at least in initiatory correspondence. Special attention should be paid to courteous forms of address, even when driving a vigorous point with the customer. Account should be taken of the long distance between the two markets and the not unnatural fact that Europeans do not always understand the American commercial manner.

Not only every general obligation should be carried out scrupulously, but each minor detail should be so guarded that after an agreement upon a certain line of action between two parties the American should be sure that his goods or his proposition will reach Milan in the exact form of the preliminary arrangements. Small lapses of this kind, or the substitution of something "just as good," or the revision of a contract in some minute particular of no consequence on our side but different from the original understanding, often leads to the rupture of promising connections.

MILAN BANKING METHODS.

The consulate might suggest also for the benefit of American exporters who have had little experience in this phase of foreign trade, that banking methods in Milan are somewhat different from those usually applying in the United States. There is very much more emphasis upon detail, and it is next to impossible to secure anything like informal action, even on large and steady accounts. The local banks usually require the last degree of both the letter and spirit of the law and of their custom, and in doubtful cases the decision invariably is upon the side of extreme caution, from the American point of view. For this reason extraordinary measures should always be taken to assure the correct form of all money documents transmitted to Italy.

Particular attention should be paid to the fact that Milan banks will not accept, excepting for collection, foreign or domestic drafts or checks on other than themselves. Even a draft on their branches in neighboring towns will not be honored in money, but must be left for collection for several days, and sometimes for longer periods. Hence, care should be taken in the United States to have drafts drawn, whenever possible, on that branch of a bank in the place where the money is due, or to stipulate in advance the delivery of a draft on a certain bank in a place agreeable and convenient to both parties to the contract.

On the other hand, it should be remembered that Milan banks have a capacity and financial standing very much greater than most of those in the United States. The Milan Savings Bank, for instance, has 700,000 depositors, whose savings approximate $150,000,000. The capital of the Banca Commerciale of Milan, all paid in, is $20,000,000, and it has a cash reserve fund, recruited each year from the annual profits, of about $8,000,000 (beginning of 1908). Its stock sells usually at about 200.

There is no branch of the American Express Company at Milan or in the district or of any other American agency for handling financial transactions.

Every draft or check passed in Italy must bear a revenue stamp of the value of 10 centesimi (2 cents) prior to being finally indorsed. American exporters should see that even this small charge is taken up by them by addition to the face of the draft.

FRANCE.

PURCHASES OF AMERICAN ARTICLES—INDIRECT SALES ARE RESTRICTED.

Consul George H. Jackson, in the following report from Cognac, reviews the commercial conditions in that part of France in so far as they affect American articles now sold or which may be introduced there:

Statistics of American trade in this consular district are very difficult to obtain, as most of the merchandise comes indirectly into this region. For instance, a hardware dealer of La Rochelle selling American lawn mowers and agricultural implements tells me that he buys a few machines at a time from one of the several depots in Paris. He is one of 200 hardware dealers in the region that do the same. He receives various catalogues from the United States, which, he says, keep him in intelligent touch with the trade.

This is true also of American dried fruits. Prunes, apples, pears, and peaches are sold in very considerable quantities in every village and city in the region. A depot for distribution at La Rochelle would permit this trade to double itself in a short time. These goods at present arrive here from Havre, Bordeaux, and Paris. Heavy transport expenses and several agents' commissions have been added to the original prices, which increase necessarily diminishes the quantities sold.

The same is true of American pork products. York hams, made in Cincinnati, sell to the consumer at 32 cents per pound, while Chicago lard retails at from 20 to 24 cents. While the quantities sold in this region can not be estimated, that they are important is evident by the goods being found in all grocery stores of importance. These commodities pass through too many hands before reaching the consumer, who is forced to limit his purchases on account of the exorbitant prices. The extra railroad haul of 120 miles from Bordeaux to La Rochelle increases considerably the value of pork products in the latter city.

AMERICAN FURNITURE, HARDWARE, AND MACHINERY.

Despite a flood of literature, well illustrated, with one exception American furniture has failed to interest the French public. They have very fixed views on this subject, considering nothing an improvement on the beauty of the historic lines of Henry II, Louis XIV, Louis XV, Louis XVI, and l'Empire. They do, however, distinguish in this regard between the esthetic and the practical. It is this latter which will make its way in France. The exception referred to is the roll-top desk. This article is finding its way everywhere, and close upon its track will doubtless follow the American revolving office chair and office files. The furniture purchased by the poor here is very inferior and very dear; especially bedroom suites. American cheap furniture must be seen here to be appreciated.

American hardware, especially locks and pipe-cutting tools, are beginning to appear in this consular district. The French lock seen here is cumbersome, the doorknob is fragile, and the window fasteners are ungainly. No man would care to carry a half dozen French door keys on a ring in his pocket. The present price of American locks on this market does not permit them to compete successfully with the domestic article.

As to agricultural implements, the United States predominates everywhere in harvesting machinery, except the horserake. The farmers here like the cast-steel tine, and American manufacturers insist on offering the wire tine. Consequently English rakes have the monopoly of the market. Although farm labor is very cheap here, farmers are using more and more such labor-saving machines as come to their notice. It has been roughly estimated that this region imports about 4,000 tons of agricultural implements annually from the United States.

RAW MATERIALS AND LEATHER GOODS.

Phosphate rock is imported directly at La Rochelle to the amount of about 30,000 tons, principally from Florida. The fertilizer factories in this region, at La Rochelle and Tonnay-Charente, are among the most important in France.

The only other raw material coming from the United States in quantities is crude petroleum, to the extent of about 10,000 tons. The railroad which serves this region has about 1,800 miles of line, and uses exclusively American lubricating oil.

American footwear got an excellent hold on the market, especially at La Rochelle and Rochefort, but the advantage was not followed up and American made shoes have been largely replaced by English and French made goods in American shapes; these are labeled "American boots," "American shoes," "Chaussures Américaines," etc. This applies only to men's footwear, for no women's shoes from the United States have yet been seen on sale here in any of the cities of this consular district. The idea exists, for some reason or other, that American forms in ladies' shoes are not graceful. The traveler with samples is the only man capable of removing this prejudice. Children's shoes from the United States are much needed; the French forms often deform the young feet wearing them.

The business in American leather, especially box calf, is increasing, particularly at Niort, although the French tanners are becoming strong competitors. This leather is used almost exclusively in making American models.

AMERICAN ELECTRICAL APPLIANCES.

The cities of this consular district have begun to enjoy the practical benefits of electricity. Niort (20,000 population), Cognac (19,000), Angouleme (45,000), and Rochefort (40,000) have had electric lights for a short time. Angouleme alone has an electric tramway. There remain still the cities of Saintes (19,000) and La Rochelle (36,000) without electric plants for general lighting. La Rochelle is being equipped with a most elaborate system, which will be in operation in April. There are a number of large towns of which only two, Royan and Jonzac, have electricity; then are Pons, Jarnac, Ruffec, Melle, Parthenay, Surgeres, Tonnay-Charente, Marans, Marennes, and St. Jean d'Angely.

The advent of electricity furnishes an opening for those varied practical appliances as yet entirely unknown here. Heaters, stoves, ovens, chafing dishes, sadirons, fans, masseurs, hair dryers, etc., are referred to. The backwardness in the use of electricity here is due to long binding contracts with gas companies, extending from twenty to forty years. Such contracts were necessary through lack of competition.

RUSSIA.

DISPLAY AND SALE OF AMERICAN GOODS—TRADE METHODS.

Consul-General Hunter Sharp, of Moscow, states that the Russian Empire, with its vast expanse of territory, offers a good market to manufacturers who are willing to conform to the demands and requirements of the country. He makes the following suggestions:

One street in Moscow, Miasnitzkaya Ulitza, is devoted almost entirely to stores selling machinery. The windows of these shops are large and of plate glass, and display the various wares to good advantage. Many windows are devoted to large exhibits of various mechanisms, and at a certain hour in the afternoon these machines are, so far as possible, set in motion to give practical illustration of their workings. The windows are usually surrounded by men, many of whom seem to be mechanics, who appear to be keenly interested.

There is a demand here for machinery of all sorts, but with exception of agricultural machinery, which is well and widely known here, American machines have not become as popular as they should. In conversation with importers of American goods I learn that this is greatly the fault of the American manufacturers. With the notable exception of the manufacturer of agricultural machinery, who has built up a large trade here, they are unwilling to accede to the customs of the country with regard to payment. The importer here, in ordering machinery, pays down a small sum on delivery and the balance in from six to twelve months' time; he requires that the goods be delivered to him in good order and that any breakages in transit shall be repaired at the cost of sender.

The American manufacturer requires cash payment in advance for his goods, but is not too particular in filling the order as agreed upon. He also displays much carelessness in packing, thus rendering breakage very liable. His estimates are found to be not exact. Furthermore, the American manufacturer does not study the needs of the country.

PROPER TRADING METHODS.

It is absolutely necessary in fostering trade in a country like this that the details of wants and requirements should be closely studied, and this can only be done by personal investigation. It is recommended that those Americans who have representatives here should send out a man from the home office who, together with the local representative here, could visit the various customers. He would then have access to all the mills and be able to obtain a thorough knowledge of the wants of the Russian trade. The trade, especially in Siberia, increases rapidly, as every year thousands of Russian colonists settle there, this colonization being fostered by the Government.

Though the Lobogreika is a primitive machine of domestic manufacture, it is made and sold in large quantities, especially in the south of Russia, and proves the strongest competitor to the American harvesting machinery. Other Russian harvesting machines are offered for sale, also German, Swedish, and English, but have taken little hold on this market.

German firms advertise successfully and make their goods known all over Russia by means of agents, who frequently visit the remotest towns to secure orders. It may also be mentioned that the German exporters are familiar with the long credits that have to be granted in Russia. They are kept well advised as to the financial standing and commercial repute of Russian importers through the German banks, which are more or less connected with the Russian banks.

The American seemingly prefers to secure a local agent, and while this may be advisable in many instances, it is not in all, for the agent may be representing several firms in the same line of business and will naturally push the sales of those machines on which he receives the largest commission.

A very large business is done in American harvesting machinery, such as binders, reapers, mowers, rakes, tedders, and harrows. Such machines as the Champion, Deering, McCormick, Milwaukee, Osborne, Plano, and Adriance Platt are largely sold. There would be a still larger importation of American harvesting machinery were it not for the high duty on mowers, harrows, and repair parts. This latter is a very important point, as all shops must have a good supply of parts for repairs on hand.

AUSTRIA.

HEAD AGENCY AT VIENNA AND BRANCH AT TEPLITZ SUGGESTED.

Many inquiries reach Consul John S. Twells at Carlsbad from American manufacturers who wish to introduce their goods in that part of Austria, which leads him to reply:

This district is undoubtedly one of those into which many more American articles could be exported than is now done. The best way to do it is to establish head agencies in Vienna and subagencies in this consular district, from which salesmen could solicit orders personally.

Carlsbad is situated in the center of the principal Austrian china, musical instrument, hop, lace, textile, coal, and many other trades, but, being a fashionable health resort, the expense of establishing subagencies here is rather high, as rents for business houses and the cost of living are great, but Teplitz, a town in this district, would be a better place to establish subagencies by American firms, because not only this consular district, but important towns of the neighboring districts might be visited by salesmen from Teplitz.

Manufacturing firms therefore who desire to introduce their goods in this district are advised to establish head agencies in Vienna, with subagencies at Teplitz.

JAPAN.

NO DEMAND FOR SILVER-PLATED TABLEWARE.

Consul John H. Snodgrass, of Kobe, in reply to a manufacturer, sends the following report on the prospect of introducing silver-plated tableware in Japan:

The Japanese have not yet become so westernized as to adopt the use of knives, forks, and spoons in their dining rooms. They are still content with the use of chopsticks and other Japanese tableware, so that as far as the native population is concerned it would be a hopeless effort to attempt a campaign of advertising and special work in this line.

A small business is done, however, with cheap material among the numerous hotels and restaurants throughout the country, Germany so far having secured the greater portion of the trade with its Patagonia silver.

The import duty of 50 per cent ad valorem upon sterling silver and plated ware would greatly retard imports, even though there might be a growing demand for such articles in this country. Foreign firms located here have found it more profitable to purchase silver in bulk and manufacture household supplies in their own institutions, the wage scale for expert silversmiths being astonishingly low.

JAPANESE-MADE TABLEWARE.

Following is a list of retail prices of sterling silver tableware as sold by a foreign firm at Kobe:

Description.	Plain.	Figured.	Description.	Plain.	Figured.
	Per dozen.	*Per dozen.*		*Per dozen.*	*Per dozen.*
Tea spoons	$9.00	$17.50	Fish knives and forks	$45.00	$55.00
Tablespoons	14.00	20.00	Table knives	27.50	32.50
Soup spoons	22.50	30.00	Table forks	32.50	37.50

Should foreigners here buy direct from American manufacturers, they would not only be required to pay 50 per cent additional to the actual value at home as an import duty, but also clearance charges, freight across the continent, as well as ocean carriage, all of which would at least amount to the original cost in the United States, so that excellent plated ware shipped from abroad would not sell here for much less than the genuine sterling of plain patterns manufactured in Japan. [Addresses of Kobe dealers in tableware are on file in the Bureau of Manufactures].

SOCIETY ISLANDS.

MOST OF ISLANDS' FURNITURE COMES FROM THE UNITED STATES.

Consul Julius D. Dreher, of Tahiti, sends the following report on the importation and manufacture of furniture in the Society Islands:

As most of these native Tahitians sit on the floor and sleep on mats made by themselves and make use of only a little plain furniture that any carpenter can make, the importations of furniture into these islands are not large. The total amount imported in 1907 was $2,020, the United States furnishing the greater part. Much more furniture would be imported if it were not for the high freight rates and customs duties. The latter are 25 per cent ad valorem, with a surtax of 20 per cent. Freight rates are $9 per ton of 2,000 pounds, or for 40 cubic feet space. The price of furniture in Tahiti is, therefore, about double what is paid for it in San Francisco. Chairs and bedsteads are shipped "knocked down," so as to occupy as little space as possible. In 1907 chairs to the value of $466 and bedsteads to the value of $233 were imported, practically all from the United States.

WHITE CEDAR AND CAMPHOR WOOD BOXES—NATIVE WOODS AND FURNITURE.

Use is made in the South Seas of boxes made of camphor wood or American white cedar, because ants and other insects have an aversion for those woods. The natives use such boxes for trunks. Many cedar boxes are made in Papeete. In 1907, 428 camphor-wood boxes were imported from China, the invoice price being $571, or more than one-fourth of the total amount of furniture imported in that year. To reduce the cost of freight on these boxes, shipped by space, they are made in sets of four, the sizes being so graduated that they may be shipped in sets one inside another. These boxes are well made, the corners being strengthened with brass or other metal. A camphor-wood box of 8 cubic feet is sold in Papeete for about $9 and one of the same size of white cedar $9 to $10. These boxes have no trays in them.

Wardrobes, sideboards, tables, and washstands are made in Papeete, where there are three small cabinetmakers' shops, one of which uses a small engine. Coffins are also made here. There are no sawmills in this colony. The lumber used in making furniture is imported from San Francisco. There are in Tahiti two hard woods that make beautiful furniture, "tou," which resembles black walnut, and "ati," or "tamanu," as it is popularly called, which resembles mahogany and takes a very fine polish. Tamanu is so hard that it is an expensive wood to work and polish. Some beautiful pieces of furniture, like bookcases, hall racks, and coffins, have been made of it. As tamanu is abundant in Tahiti the question of using it is worthy the attention of manufacturers of furniture and of other consumers of hard woods.

MAURITIUS.

DISTANCE AND FOREIGN AGENCIES ARE GREATEST OBSTACLES.

Consul Samuel C. Reat, of Port Louis, makes the following suggestions relative to improving the trade relations with the Island of Mauritius:

Probably next to distance, the middlemen and foreign agencies are the greatest hindrance to the trade between Mauritius and the United States. Merchants here prefer to deal direct with American houses, but their efforts to get into communication have usually failed. Letters to exporters are answered in about three months and frequently make the announcement that the inquirer's letter has been referred to the company's foreign office. Then, after another wait of several weeks, the foreign office writes a vague, unsatisfactory letter. By this roundabout way about six months are consumed in correspondence, with the result that the prospective buyer either gets entirely out of the market or, out of patience by waiting, concludes that he will have to get along with some substitute for the desired American goods.

Without American ships to carry American goods other methods of rapid expedition must be provided. And the prompt, direct execution of orders by firms in the United States would contribute a needed stimulus to the trade relations between that country and the far-away countries and islands of the southern sea.

It is equally advisable that buyers in the United States should conduct their business directly with the sellers in these regions, unless the judgment or experience of a broker be an important feature of the transaction. For, besides the element of time that enters into the undertaking, American buyers will often find the local prices lower than the London quotations. Recently a case in point came under the writer's notice. A local dealer in aloe fiber quoted his customer in New York a price of $5 less on the ton than the London broker offered, and to the London price would have to be added the freight and wharfage charges.

BRAZILIAN-AMERICAN TRADE.

NECESSITY FOR REGULATING ITS INEQUALITY FULLY RECOGNIZED.

Consul J. W. O'Hara, of Santos, furnishes the following information concerning the inequality of American trade with the Brazilian State of Sao Paulo, the causes and the remedies:

The Government, and the people generally, of this State, Sao Paulo, are using their energies and spending their money for the express purpose of extending the market for its chief product—coffee. No reference is here intended to what is generally known as the valorization of coffee, but to the more recent action of the Government in sending representatives to countries like England, in which little coffee is used, and by advertising and actual demonstration teaching them to use and demand real and properly made coffee. In this work they are sending men of skill and experience into the field where the campaign is to be made, men well equipped for the work, with a full knowledge of the language of the country and of the article they are offering to the people. American manufacturers might take a lesson from these people. By following the methods employed here to enlarge the coffee market the markets for American products could be relatively expanded.

AMERICAN, BRITISH, AND GERMAN TRADE WITH SAO PAULO.

The people of Brazil thoroughly understand that the United States provides a greater market for their products than any other country, and for that reason would be willing to reciprocate by giving the United States a greater part of their trade if it were only cultivated. England takes less coffee than any other of the manufacturing countries of Europe, and only one-ninth the amount taken by the United States, and yet England furnishes this part of the country with more manufactured articles than any other country. The imports into the State of Sao Paulo from the three leading countries in 1907 were as follows: United Kingdom, $10,244,374; Germany, $7,546,700; United States, $4,719,211.

On the other hand, in the exports the order is reversed, viz: To the United States, $28,882,310; to Germany, $23,788,824; and to the United Kingdom, only $3,668,166. A large amount of the coffee shipped to Germany and England in 1907 was sent on government account for storage, and this is included in these figures.

The cause of this is that England and Germany work up their trade in this State by personal representatives stationed in the country conducting importing houses and by traveling salesmen who understand the language of the country and the lines they represent. The people here are not generally familiar with the latest styles of American machinery, because these have never been brought to their notice.

HOW THE TRADE OF SAO PAULO IS CONDUCTED.

The English and German manufacturers have agencies in all the principal cities and seaport towns of the district, who are also agents for national lines of steamers that carry coffee to New York and New Orleans, and thence carry food articles and raw material to Europe, where they secure a cargo of manufactured goods, to be sold by their agents in Brazil. They carry the coffee to the greatest coffee consuming country in the world, and take out of that country raw materials for the factories of Europe, where they are manufactured for this market, which the United States by its coffee purchases largely maintain, and all because we do not properly exploit American trade here. Nevertheless, a great many American goods come into this country by way of Europe, and in many cases they are not known as American goods except to the agent, who has the consular documents. The buyer is thus compelled to pay double freight charges and expenses, and by the time they reach here the purchaser is compelled to pay an exorbitant price, a price much higher than he will have to pay for articles "just as good," made in Germany or England, a condition which is brought about by this triangular shipping system.

A good example of what may be accomplished by local agencies in this country is given by the Light and Power Company, an American-Canadian corporation, with large interests in different parts of Brazil, and large buyers of American goods required in their line. Of course this only applies to electrical light and power appliances and to articles used in railroad construction and operation, for they are not general importers outside of their lines, but the fact that they are large buyers of American manufactured goods serves as an example to emphasize the necessity for the establishment of American agencies and importing houses.

CORRESPONDENCE AND CATALOGUES.

The American manufacturer, it would seem, still hopes to build up and maintain a foreign trade by means of catalogues and correspondence. Every mail that comes to this consulate brings inquiries from American manufacturers who are desirous of entering foreign markets, and who request names of importers and general dealers with whom they may correspond and to whom catalogues describing their wares may be sent; and although they are advised that the correspondence and catalogues for Brazil, in order to be of any material value, should be in the Portuguese language, or at least in French or Spanish, which the dealer may be able to read, they usually ignore the instructions and send them printed in English. The result is that the money spent in the preparation and mailing of these catalogues is to a very great extent wasted, and the sender is disappointed and concludes that his efforts and his goods are not appreciated. He does not appear to realize that the fault is his own. It is true that in many importing houses of this country there are clerks who are able to read and speak English, but as a rule they are English and German and are more interested in promoting the sale of products of their own countries than those of the United States. If the proprietors of such houses were personally called upon by some representative of an American house understanding the Portuguese language, success would be almost certain. If for any reason the parties were not then ready to order goods, the representative could leave proper catalogues and price lists with profitable results; whereas such lists in English, then or at any other time, are useless.

SHIPPING INSTRUCTIONS.

When manufactured articles are sold to dealers and importers in this country, great care should be exercised to see that shipping instructions are carefully followed. Many times goods arrive at this port, through a broker or forwarding agent, in such a condition of uncertainty as to marking, classification, and invoicing that the buyer, though innocent of any wrongdoing, is heavily fined. This fine is paid by the local broker or forwarding agent who clears the goods from the custom-house, and is charged to the buyer.

The buyer then makes a claim against the American manufacturer, who is either compelled to pay for the carelessness of his forwarding agent or suffer his reputation to be injured and lose a customer if he refuses. The American manufacturer should look after shipments and see that they are filled carefully, giving particular attention to having goods shipped as ordered. The method sometimes resorted to of filling orders with "something just as good" should never be practiced on a foreign customer.

AN AMERICAN BANK AND AN AMERICAN STEAMSHIP LINE WANTED.

One of the greatest needs in developing a trade with this country is a reliable American banking house. Such an institution would not only be of advantage to the exporter and importer, but if properly managed would be a good investment for American capital.

About $14,000,000 worth of coffee was invoiced from this consulate and shipped to the United States during the months of October, November, and December, 1908, and every dollar of this vast sum paid tribute to European banks and bankers. If an American banking house were located in this city, there is no doubt but that it would secure its fair proportion of the business and at the same time be of great service to Americans doing business with the people of this country in the matters of arranging credits, discounts, and collections.

A line of steamers flying the American flag, with first-class accommodations for passengers, making the trip from New York to the River Plate, stopping at the most important ports of Brazil, would not only be of great convenience but the greatest advertisement the United States could have. Such a line would improve the mail and passenger service between the two countries, would give an opportunity to the people of the United States to visit South America with ease and comfort without the necessity of traveling via Europe, and would turn the tide of travel from this country to New York instead of to Europe and, most of all, such a line would inspire confidence. There has been but one American merchant ship in this port in a year—a sailing vessel in distress.

MUSICAL-INSTRUMENT TRADE.

DOMINICAN REPUBLIC.

A GOOD MARKET NEGLECTED BY AMERICAN MANUFACTURERS.

Consul Ralph J. Totten, of Puerto Plata, furnishes the following information concerning the use of musical instruments in the Dominican Republic and the opening therein for American manufactures:

The Dominicans are very fond of music. The larger towns of the Republic have municipal bands which play weekly in the central plazas. A great many of the men are skillful performers on the guitar and mandolin, while in the homes of the well to do you find pianos and graphophones.

There is only one regular music store, carrying a stock of instruments and sheet music, in the Republic. This store is in the city of Santo Domingo; therefore the northern part of the island must order these lines from commission merchants and, owing to the fact that American manufacturers have more or less neglected this market, the greater part of the orders are placed in Europe.

GUITARS AND MANDOLINS.

Guitars are much in demand. The Spanish-made instrument from Valencia seems to be the favorite. The American guitar is not popular on account of its weight. They like a lighter instrument, claiming that the tone is softer and more resonant. If the American guitar makers would turn out a guitar with wooden instead of metal keys and with the strings fastened to the bridge instead of to a heavy metal tailpiece, it would find a ready sale here. The Spanish-made article costs from $1 upward. Guitars are divided by the customs appraisers into three grades—ordinary, medium, and fine—and the duties are 40, 60, and 80 cents each, respectively. They retail here at from $5 to $15.

The favorite guitar strings are imported from Germany. The bass strings are made of silk covered with steel wire and are much lighter than the American copper string. These cost about $5 per gross, pay a duty of $2.20, and retail at about $10 per gross.

The American mandolin seems to have the largest sale. They cost from $2 upward, pay a duty of 73⅘ per cent ad valorem, and retail here at from $5 to $20.

PIANOS AND GRAPHOPHONES.

Pianos come almost altogether from Germany. They cost from $175 to $500, pay a duty of $25 each, and retail at $500 to $1,000. If this territory were properly canvassed, I am confident that there would be a good sale for American pianos. For the trade in the Tropics the exposed ends of the frame and the felt on the striking heads should be treated with some insecticide, as otherwise the wood and felt are soon eaten up by insects. It would seem that there will be an increasing demand for pianolas. There are at present three in this city and two in Santiago, which are very popular. The people are much interested, and I believe that a number of sales could be made. There are some 20 or 30 first-class graphophones and phonographs in this district, and over 2,000 high-grade records have been imported through the Puerto Plata custom-house.

There is unquestionably a good opening for American manufactures of musical instruments in this consular district. Spanish-speaking salesmen should be sent if possible; catalogues and all advertising matter should be printed in Spanish and sent to the principal commission merchants and importers [a list of same can be found on file at the Bureau of Manufactures]; and by all means catalogues should be sent for the files of this office. Catalogues are wanted of wind, string and band instruments, pianos, self-playing pianos and organs, rolls for player pianos, graphophone records and sheet music. These can be sent in English or Spanish.

JAPAN.

DEMAND FOR FOREIGN MUSICAL INSTRUMENTS VERY LIMITED.

Vice-Consul-General E. G. Babbitt, of Yokohama, furnishes the following information concerning musical instruments in Japan:

It is doubtful whether Japan is much of a market for American-made pianos. It is difficult to ascertain just what numbers are imported into Japan, the imports of pianos being included in the item "musical instruments and parts thereof," the importations of which were as follows in 1907: United States, $9,928; Austria-Hungary, $578; Germany, $24,717; France, $10,801; Great Britain, $8,855; and China, $448.

The demand for musical instruments of all descriptions is thus not extensive, the number of people who can make use of them, being very limited. The duty on pianos in common with other musical instruments, is 40 per cent ad valorem, and this, with the long freightage, and the troubles that meet foreign-made instruments, due to the dampness of this climate, has led to the manufacture of pianos in Japan. Of these factories there are two in Yokohama. One of these makes several styles ranging from $175 to $250; the other makes a piano, one model only as yet, for $200. This instrument is a 4-foot 1-inch model, entire iron frame, ivory keys, overstrung, finished in ebony, rosewood or walnut, price including delivery and stool. [Addresses of dealers in and importers of foreign pianos and musical instruments in Japan and two illustrations of Japanese-made pianos are on file in the Bureau of Manufactures.]

SOUTH AMERICAN MARKETS.

EXPORTERS OF THE UNITED STATES MAY CONTROL THIS TRADE.

Consular Agent George D. Hedian, of Esmeraldas, in reply to an inquiry from a New York manufacturer, sends the following observations relative to business methods in Ecuador and urges compliance therewith:

The local importer or merchant sells to his customers on credit of six and nine months, and often waits a year for payment in installments of cacao, coffee, tobacco, hides, rubber, or ivory nuts. When sufficient quantities have been accumulated he ships these products to markets where he can exchange to the best advantage for merchandise. The European exporter gives the necessary credit, sells at a good profit, arranges for a satisfactory rate of interest, and his banks will carry his paper at lower rates if he needs that accommodation. The South American does not object to the terms, because he makes his selling price conform to them.

American manufacturers and exporters who are willing to extend credits of six or nine months, meeting their European competitors on equal terms, can undoubtedly dominate in these markets. American goods are preferred because of quality and style. Lower freights and promptness of delivery are advantages which the European can not easily overcome.

The business is safe and desirable. Recently an American, member of a New York commission house, stated that after seventeen years' experience with these countries only 10 per cent of his customers had proved to be slow or poor pay, and that only 1 per cent had turned out bad. Yet this firm will not give more than three months' credit, and their new customers complain that three months is cash on arrival of goods in this port, because drafts must be mailed immediately to meet time of payment in New York. These merchants are of such standing that any European house will fill their orders without hesitation and give six months' credit. Only a short time ago Guayaquil wholesale firms were seeking to place goods on nine and twelve months' credit.

FIELD FOR AGRICULTURAL IMPLEMENTS.

The value of these markets is appreciated by the English, German, and French manufacturers, whose traveling men, with their scores of sample trunks, are constantly scouring the field, studying the wants of their customers, learning the qualities and prices with the object of imitating the salable merchandise of competitors.

For machinery the field is uncultivated, but fertile with possibilities of great business. With yoke tied across the horns the oxen drag the ancient prong plow, which only scratches the depleted top soil, and crops fall short of what they should be. There are American plows here, "bought through catalogue" by ambitious agriculturists, but thrown aside because no one has been taught, or knows how, to use them. The ox still treads out the grain in the open fields near Quito. Horsepower reapers and thrashers can replace these primitive methods if the owners of haciendas were shown by actual demonstration the simplicity and economy of modern agricultural machinery. Innumerable primitive methods of work offer opportunities for enterprising salesmen to point out the advantages and promote and teach the application of modern machinery.

EXHIBITION OF AMERICAN GOODS.

SAMPLE ROOMS IN EUROPEAN TRADE CENTERS ARE PROPOSED.

Consul Robert J. Thompson, of Hanover, makes the following suggestions to the National Association of Manufacturers relative to placing exhibits of American manufactures in the leading commercial cities of Europe:

A proposition for a permanent exhibition of American manufactures in Europe, and more particularly in Russia, was brought forward in 1900 by the then Secretary of the Interior, E. A. Hitchcock. The proposal was favorably received, but as there was no organization ready at the time to become sponsor for the project it was finally abandoned.

It is now proposed that the National Association of Manufacturers establish a "foreign exhibit department," with the view of furnishing contributing members an economic means of exhibiting samples in Europe, forming proper connections, establishing agencies, and securing representatives. This would afford a practicable and comparatively inexpensive plan for the American manufacturer to meet the foreign buyers who gather from the market centers of Europe, Asia, Africa, and South America at certain periods of the year in cities like Hamburg, Vienna, Berlin, St. Petersburg, Paris, and London.

SOUTH AMERICAN AND AFRICAN BUYERS IN EUROPE.

Manufacturers of the United States are looking for markets in South America. They will find more buyers for those markets in Hamburg or Paris at any time than in New York. Turkey is inviting the enterprise of the American manufacturer. The buyers for that vast country, the Balkan and Transcaspian States, will be found in Vienna in large numbers at certain seasons of the year. At the present time (February 1, 1909) Hamburg has in her hotels many buyers from the east and west coasts of Africa. They come to see and to purchase, to take agencies for goods, and to form permanent business connections. At such points the National Association of Manufacturers of the United States should have an exhibit center and a representative possessing marked skill as a business man, and with authority from manufacturers represented by samples to make contracts with foreign importers.

Under the auspices of the association a considerable number of manufacturers or firms could exhibit samples at a moderate cost, and advertising and circularizing sufficiently would arouse comment in commercial and importing circles, and the agent or buyer from

Africa, Asia, South America, or Europe, who is always on the lookout for advantageous representation, would appreciate the opportunity to investigate the products offered. Thus the American manufacturer could place his samples economically before the purchasers from a dozen parts of the world.

Such an exhibition as is proposed could be located in a large storeroom or a leased hall. It could be transferred from one city to another. It could be held in Hamburg four months, St. Petersburg four months, and Vienna four months of the year. Once established, it would meet with success, both in the use the American manufacturer would make of it to place his samples economically before the foreigner and the advantage the foreigner would take of seeing what is offered without the long trip to the United States.

The proposition is that the samples be brought to points where the buyers gather from those markets which American manufacturers wish to occupy; that the expense of the undertaking be shared by those who join in it according to the extent of their exhibits; that the project be directed by a committee from the National Association of Manufacturers.

SPANISH-MOROCCAN TRADE.

ENLARGING COMMERCIAL RELATIONS THROUGH MUSEUMS.

Vice-Consul-General William Dawson, of Barcelona, furnishes the following information concerning Spanish efforts, now being put forth, for the enlargement of trade with north Africa:

The Spanish-Moroccan Trade Associations (Centros Commerciales Hispano-Marroquies) are preparing an expedition to the north coast of Africa with the object of exploiting its markets and resources, developing commercial relations, and collecting specimens for the museums of Moroccan products at Madrid and Barcelona. In connection with these museums, already in existence, it is proposed to establish similar ones, for Spanish products, at Ceuta, Melilla, Tangiers, and Tetuan, and to that end a circular has been addressed to the commercial and industrial forces of the country inviting them to furnish samples of their products, which will be advertised in northern Africa, chiefly in Morocco. To facilitate intercourse with Arab merchants the expedition will be accompanied by the professors and most advanced pupils of the schools of spoken Arabic maintained by the associations at Madrid, Barcelona, and Ceuta. The expedition will follow the coast of northern Africa and Morocco as far as the Rio de Oro district.

GOODS SUITABLE FOR THE MOROCCAN MARKET.

The circular alluded to indicates the following as the articles for which Moroccan markets offer the best demand:

Sugar, a leading article of consumption; coffee and tea, bleached and unbleached cotton fabrics, stamped percales, cotton handkerchiefs, handkerchiefs of fibrous material, knitted goods, muslins, linen cloth, fine and coarse; canvas for tents, woolen and cotton blankets, gauze turbans and headdresses, woolen coverings, counterpanes, ordinary and coarse towels, common grades of table linen, cloth, velvet, brocade and damask, cotton velvet, felt, jute and Manila hemp cloth, rugs, silk cloth, fringed silk handkerchiefs, silk handkerchiefs embroidered with spangles, cord, braid, and ribbon; trimmings, linen and silk thread on spools, gold and silver thread, haberdashery, cheap perfumery, Cologne water, shoes and footwear, ornaments, cheap toilet soap, paints and varnishes, empty sacks, white soap and soap in bars, candles, playing cards, metal ware and toys, lamps, mirrors, furniture, lithographs, watches and clocks, music boxes and pianos, stationery, umbrellas and parasols, chocolate, all kinds of sweets, liquors and sirups, sparkling wine, beer, opium, flour, grits, common earthenware, glass, glazed tiles, cement, bricks, chemical and pharmaceutical products, dyes, enameled ironware, galvanized-iron buckets, metallic tissues, hoes, picks and hatchets, all kinds of hardware, guitars and mandolins, champagne, ready-made clothing.

SPANISH EXPORTS TO MOROCCO.

The Spanish-Moroccan Associations' expedition, as outlined above, is an indication of the efforts being made to extend Spanish trade in Morocco, where, on account of proximity, the Spanish possessions along the Mediterranean coast, and, to a certain extent, similarity of tastes, Spanish merchants should find an important market. That this is hardly the case is evidenced by the following figures showing the exports of Spanish products to Morocco in 1907: Common bricks, $16,227; tiles, $6,270; dyed and stamped cotton goods, $7,372; shoes, $18,784; wine, $12,905; miscellaneous, unclassified, $87,898; total, $149,456.

The exports to the Spanish possessions in Morocco during the same year (Ceuta, Melilla, and Chafarinas) were as follows:

Articles.	Value.	Articles.	Value.
CEUTA.		MELILLA.	
White cotton goods	$5,643	Silver coin	$10,968
Dyed and stamped cotton goods	11,374	Drugs	9,945
Woolen goods	10,214	Wheat flour	30,800
Woolen mixed with cotton	6,185	Potatoes	6,120
Wooden furniture	5,969	Olive oil	15,346
Cattle	17,170	Wine	17,833
Shoes	15,545	Miscellaneous, unclassified	40,320
Olive oil	6,485		
Liquors	4,720	Total	131,332
Wine	8,000		
Miscellaneous, unclassified	60,004	CHAFARINAS.	
Total	151,309	Miscellaneous, unclassified	2,523
		Grand total	285,164

Of the total trade of Morocco, worth about $35,000,000, from $12,000,000 to $13,000,000 is with Great Britain, $6,000,000 to $7,000,000 with France, $2,500,000 with Germany, and $2,000,000 with Italy.

MAIL ORDERS.

FOREIGN REQUIREMENTS.

MEXICO.

WHY AND BY WHOM MAIL ORDERS ARE GIVEN.

The following valuable pointers, showing the best manner in which to secure orders by mail in Mexico, are furnished by Consul Thomas W. Voetter, of Saltillo:

The considerations which would induce a resident of Saltillo, for instance, to send an order for merchandise to a house in the United States would be that the purchase could be made cheaper than by buying of the merchants in Saltillo, or that the American house would offer a greater variety of styles and patterns to select from, or that the articles desired could only be obtained in the United States.

There is quite a heavy import duty levied on all merchandise entering Mexico, or on nearly all, so that with goods manufactured in Europe, and which have paid a duty to enter the United States, it is hardly to be thought that, considering the double duty to be paid, a purchaser here would find it profitable to send to the United States for such goods if they can be obtained in Mexico. It is possible there may be some exceptions to this rule.

HOW FOREIGN MAIL-ORDER REQUIREMENTS SHOULD BE MET.

The greater number of orders for goods from the United States, it is said, are for kinds which are not kept in stock by local dealers, or only in limited variety. A local dealer's trade is principally with the native population, and this stock is selected to suit that trade. For this reason foreigners residing here often find it impossible to purchase what they have been accustomed to buy in the United States, for instance. This is true of textiles, trimmings, notions, and many other lines. To supply one's self with these a trip to the United States is necessary or recourse is had to a mail order.

It would seem, therefore, that the catalogue sent out to residents in foreign countries should be so written that an intending purchaser may find the descriptions of the various items so full and exact as to leave no doubt as to just what the goods are. In textiles the materials should always be given, whether the cloth is entirely cotton, wool, flax or silk, or what mixture of these. The Mexican duty is very different for different compositions of cloth. If garments have any silk in the trimmings it should be so stated. The weight of articles should in all cases be mentioned, and with cloths, the weight per yard and the width should be stated. It is probable that a special edition of a catalogue, in which attention will be given to the above points, and in which greater proportionate space be given to goods made or extensively used in the United States will be found advisable.

If export trade to countries other than Mexico is contemplated, other points may have to be considered. Considering only American or English customers in Mexico, the dimensions, weights, and prices can be left in American weights and measures, and the prices in American currency. The relative value of the Mexican and American dollar is well understood by Mexicans who would be likely to send an order by mail to the United States; the Mexican weights and measures are metric.

CUSTOMS REQUIREMENTS AND PACKING—SECURING ADDRESSES.

With an extensive mail-order trade it will be of importance to have in American shipping departments persons familiar with the Mexican customs requirements, so that no invoices may be sent out defective in any way, or with the customs declarations so made that the customs authorities here could find ground for believing false entries are attempted. A study of foreign tariffs may enable exporters to have some articles so manufactured or modified that they may be entered under lower classifications than otherwise. Substituting a cotton for a silk trimming, leaving off useless metal or leather ornaments, gilding, etc., may result in savings to customers and increased trade for the houses.

It should hardly be necessary to give instructions about good packing other than to remind inquirers that all goods will be unpacked at the border, and packing should, therefore, be such as to permit this handling without injury to the goods shipped.

Before catalogues are to be sent out addresses of English-speaking residents will be desired. In small cities where consuls are stationed these might be requested to supply the names, but in large cities like Mexico and Monterey, where the English-speaking inhabitants run up to the thousands, it would be too much to ask such from the consul. A telephone directory or city directory would be the best in that case. It is likely that inquirers can obtain telephone lists of many Mexican cities by making a request to the Mexican Telephone and Telegraph Company, an American corporation with an office in New York. If telephone lists can not be obtained in this way, the various consuls may be able to obtain them.

DURANGO DISTRICT.

OFFERS AN OPENING FOR ENLARGING MAIL-ORDER TRADE.

Consul Charles M. Freeman reports as follows on the opportunities which the Durango consular district offers for an increased mail-order trade and the best means by which such increase can now be accomplished:

It is quite possible to extend and enlarge the mail-order business in this consular district. Large quantities of goods are daily received at Durango post-office from the United States. Of articles bought in the United States and delivered by parcels post, boots and shoes head the list, followed by small goods, such as collars, shirts, underwear, fancy goods, jewelry, etc.

The mail-order houses of Paris have a large clientage in Mexico, and they advertise free delivery for goods to the value of $10 or over. For a small fee in addition to the cost of the goods, the French houses guarantee safe delivery.

On account of the proximity of the United States, which insures quick and prompt delivery, American mail-order exporters could, by adding to their catalogue attractions as outlined in the following paragraphs, secure practically all the sales made in Mexico by mail-order houses.

TRANSPORTATION OF MAIL ORDER CATALOGUES.

A careful examination of the prevailing conditions existing in this city, and the same must be true of all Mexico, leads me to suggest a change in the catalogues sent by mail-order houses in the United States to this country.

It goes without saying that catalogues printed in the language of the country, Spanish, will receive at the hands of the recipient greater consideration than those published in English; consequently, the first requisite is to use the Spanish language in compiling a catalogue for use in Mexico. This is more essential for wholesale exporters and manufacturers than even for mail-order houses. Although mail-order catalogues are generally received by those who have leisure to look them over, and though these may have no knowledge of English, they can and do puzzle out the cost of illustrated articles; nevertheless, to achieve full success the Spanish language must be used. Mexican buyers say that if the catalogues would give the price delivered, or the price delivered less the postage, they would feel more confident about ordering and more free to order.

This feature in mail-order catalogues may be a novelty, but it surely would not be difficult to add, for the reason that the Mexican tariff is wholly specific [and copies in English may be secured from the Bureau of Manufactures]. For all practical purposes the Mexican dollar or peso is one-half the value of the American dollar, consequently, one gets readily the Mexican price delivered by doubling the American price and adding the duty.

The mail-order house catering to Mexican business should be familiar with the Mexican custom-house classification of his goods, and know the amount of duties that will be levied on them. A catalogue to be perfect should not only contain the above-mentioned changes but give measurements in the metric system. This last is not so necessary in this city as the other features mentioned, as the buyers here understand the American measurement fairly well.

The difficulty is to get catalogues into the hands of those who have money to buy. The telephone subscribers are the first ones, and perhaps the most difficult to reach. The difficulty lies in the fact that the local merchants, generally subscribers themselves, object to the telephone company sending out lists, claiming that it hurts their trade. [A list of the telephone subscribers in the city of Durango is on file in the Bureau of Manufactures.]

Ranch owners are good people to send catalogues to; a list for the entire Republic of Mexico is published by P. G. Holmes, Mexico City.

BRAZIL.

A PARCELS-POST CONVENTION NECESSARY TO FACILITATE THIS TRADE.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the difficulties encountered in attempting to build up an American mail-order trade with Brazil:

There are many lines of American goods in which a successful and satisfactory mail-order trade could be built up under slightly changed conditions, and many lines of goods of which the Brazilian people have a need without being able to supply the same, which they might do if better arrangements could be made. The chief trouble in building up such trade from the United States is in a lack of a parcels-post convention with Brazil. The United States suffers a direct disadvantage in this, since Portugal has a parcels-post convention with Brazil and the other countries of Europe deal with Brazil through Portugal. The only way packages can now be sent from the United States to Brazil, other than by regular freight and with consular invoice, is upon what is known as a parcel receipt, the goods being handled at this end of the line through the "Armazem de amostras," or warehouse for samples. Under the Brazilian customs regulations articles for this service must be of a value of less than $30 and must weigh less than 10 kilos (22 pounds), being limited also as to size. This method of shipping articles within the necessary limits given is reasonably convenient and not unreasonable in cost. Its benefits seem to be little known or appreciated in the United States, however, and probably will not be more generally appreciated until there is a stronger demand for American goods of the mail-order line in Brazil.

BRAZILIAN MAIL-ORDER BUSINESS WITH EUROPE.

What mail-order business is now done in Brazil, and it is appreciably on the increase, is done almost exclusively with France, England, and Germany. It should be realized that the fashionable life of Brazil is French in nature, connections, dress, literature, and ideas generally. There is a large English colony in most cities of Brazil, notably the trade ports, and this colony is the foundation for the mail-order trade of Brazil with England. A similar German colony is the foundation for the mail-order trade of Germany in this country. What growth there has been in American mail-order business has been due to the increasing number of Americans resident in Rio de Janeiro and Sao Paulo. For the average resident of Brazil there is no mail-order business, and either from the standpoint of cost or of trouble the average person in the country is content to buy in the markets of the country, even if goods are inferior or less to his liking.

HOW TO BUILD UP A MAIL-ORDER TRADE.

Unquestionably advertising among the limited fashionable and well-to-do classes in Brazil on the part of American houses will in time bring business that is worth looking after. At present most of the advertising of this sort, almost exclusively in the line of clothing, is in French. The best is, of course, in Portuguese, the language of the country. I think the bulk of the business at present, however, is not the result of any advertising here, but rather of personal connections in Europe, established during visits on the part of Brazilians to Paris and other European cities. In this as in other lines the United States suffers from the closer connection Brazil has with Europe by ties of blood, race, association, and communication.

The element of communication is very important. So long as Europe has an average of from 3 to 5 fast ships a week between Brazil and its various ports and the United States at best has but 2 comparatively slow ships a month from and to Brazil, enabling Brazilian buyers to order European goods and secure quick response, while response from the United States is slow and uncertain, it can hardly be expected that American mail-order business will thrive. At the same time persistent attention to the trade in this country, with judicious advertising, will doubtless have beneficial results, and a trade once established will remain a valuable one.

How to get at this trade is a matter of considerable difficulty. Some of the French houses which have been securing the best returns for their efforts in this direction have adopted the policy of dealing through a local house, which receives orders, distributes advertising matter, attends to clearing goods through the custom-house, and such matters, and does all its work on a commission. Possibly some such arrangements could be made with houses here to handle such a line of American goods, and American mail-order houses may do well to write to firms named in a list sent herewith. To make such a connection a success, however, would require advertising in Portuguese, a consistent and persistent campaign, and patience for future rather than immediate trade. [List of possible mail-order agents in Rio de Janeiro on file in the Bureau of Manufactures.]

PERU.

MANY GOODS IMPORTED BY POST—FIELD FOR AMERICAN ACTIVITY.

Consul-General S. M. Taylor, of Callao, in writing on the subject of mail and parcel-post orders, makes a number of helpful suggestions to American firms interested in developing such a business in Peru. He says:

Every mail brings a great many catalogues from European countries addressed to people here. These are delivered by letter carriers at the residences, making it an easy matter for a private person to order goods from abroad. Mail facilities which exist between Peru and a number of other nations, including the United States, are encouraging to a mail-order business. Interested firms should ascertain from their postmasters what is required to insure the delivery of any catalogue it is desired to send. The number of parcel-post packages handled at the Lima post-office is very large, and is increasing rapidly; a special department of the post-office is devoted exclusively to the handling of these parcels. They consist of wearing apparel, silk and cotton dress goods, gloves, laces, neckties, shoes, stationery, drugs, notions, etc.

DUTIES AND OTHER CHARGES—SPECIFIC INSTRUCTIONS.

Customs duties have to be paid but there is always a saving to the buyer in landing and other charges, not to speak of the local merchant's profit. On each parcel the receiver is required, in addition to the tariff, to pay 30 cents. If American exporters send samples care should be taken to arrange for payment of tariff and other charges, else the consignee will refuse to accept the parcel.

Notwithstanding that some countries enjoy better facilities than the United States in this line of trade with Peru, it seems that an American mail-order business is susceptible of development here, not only among foreign residents, but among the native population as well. American goods, in some lines, are growing in popularity here, and New York orders would arrive more promptly than European orders. Circulars and other advertising matter for Peru should be printed in Spanish. Much attention should be given to the packing of the goods. The name and address should be marked or pasted on the package itself and not on a tag, and packages should be properly closed and sealed, as they are not reviewed until delivered.

COLOMBIA.

PARCEL-POST FACILITIES, SPANISH CATALOGUES, DUTY AND SURTAX.

Consul Isaac A. Manning, of Cartagena, writes that a large mail-order business may be developed in South American countries by proper advertising. He says:

A large mail-order business can be secured between the United States and South America if a proper effort is made therefor. The first requisite to the establishment of this trade is the publication and proper placing of attractive catalogues in the Spanish language. English catalogues are more satisfactory to the few English-speaking people than the Spanish, but they will not materially increase business. The parcel-post arrangement between the United States and Colombia permits the shipment of a package weighing 5 kilos (11 pounds), and the only customs requirement is the usual parcel-post declaration attached to and forwarded with the package. On delivery here the consignee pays a surtax on the duty of 25 per cent in lieu of consular fee. [Lists of names to whom catalogues may be sent are on file in the Bureau of Manufactures.]

CHINA.

DETAILS OF BUSINESS SHOULD BE CAREFULLY PROVIDED FOR.

Consul Julean H. Arnold, of Amoy, gives the following explicit directions for introducing the American mail-order system in China:

This district's foreign population is not large, probably about 200 in all. However, the purchasing power of these 200 people is greater than that of the average 200 foreigners in their own countries.

The following suggestions are made to mail-order houses who desire to extend their field of operations to this district of China:

(1) Issue an export catalogue containing full particulars as to methods of ordering, packing, shipping, and remitting.

(2) Mail one such catalogue to each of the addresses forwarded herewith. [On file in the Bureau of Manufactures.]

(3) Make terms of payment a certain percentage of the value of order, cash to accompany order, the remainder to be paid by draft against shipping documents.

(4) Secure through bills of lading for Amoy, although transshipment may be necessary from Hongkong.

(5) Issue explicit directions as to ordering by parcel post via Hongkong.

(6) In the event of securing an order in this district, execute the same promptly, with particular attention to buyers' instructions to packing and shipping; also advise purchaser by earliest possible mail of the date of departure of shipment from New York, name of steamship, and probable date of arrival of goods in Hongkong.

If an initial order is executed with every attention to details and arrives here in splendid shape, giving the buyer perfect satisfaction, the shipper will have secured good advertising, which will undoubtedly lead to other orders; but if goods arrive here in bad condition and are not up to catalogue specifications, or do not arrive with a reasonable degree of promptness, the firm will receive bad advertising and find further orders difficult to secure.

Some firms are careless, in that they occasionally underpay postage on business letters. The addressees must pay double the amount of the shortage before being allowed to take the letter from the post-office, and if this happens with a letter from a business firm a prejudice is created in the person's mind against the firm in question.

DALNY.

PURCHASING POWER OF THE PEOPLE VERY LIMITED.

Consul Roger S. Greene reports as follows concerning the Dalny region:

The purchasing power of this district, which comprises the territory leased by Japan from China on the Liaotung Peninsula, is not large. Of the total population of 405,685, reported at the close of 1907, 381,132 are Chinese, mostly small farmers and laborers. Even among the Chinese merchants here there are few who have any considerable means.

The Japanese population numbers 24,476, not including the military, and is concentrated at Dalny and Port Arthur. Among the Japanese are a fair number who live in foreign or semiforeign style, but the ladies still adhere to their national dress, though some adopt, on account of the exigencies of the climate, a few such articles as fur muffs and collars, shawls, gloves, etc., and jewelry is more or less used. Among the men, except the poorer classes and small shopkeepers, European dress prevails, and even those who wear for the most part Japanese dress, use largely foreign-style underwear, hats, shoes, stockings, etc. Probably, however, it is only a few of the more well-to-do Japanese who would be likely to be interested in a foreign mail-order catalogue.

The returns give only 74 foreigners here, of whom only 16 are Americans and English, most of whom live in a very modest way, as general business is still little developed in this neighborhood.

While the number of probable purchasers here is small, there is at least the great advantage that this district is free of all customs duties, so that mail importations can be made without the slightest difficulty as far as customs formalities are concerned. The parcels post arrangement between the United States and Japan applies to this district, and will be useful so far as it goes, but the limit of weight (4 pounds 6 ounces) is far too low, considering that the European limit is generally 11 pounds. [A list of persons in the Dalny consular district who might be interested in a mail-house catalogue is on file in the Bureau of Manufactures.]

MUKDEN.

HOW TO BUILD UP A SUCCESSFUL MAIL-ORDER BUSINESS.

Vice-Consul-General F. D. Cloud, of Mukden, furnishes the following information concerning the best means of securing a mail-order trade in China:

To make the mail-order business in China successful it is absolutely essential that catalogues be printed in the Chinese language and that mailing lists of well-to-do people in the centers of population be carefully prepared. Even then the mail-order business of American houses can not hope to do a very profitable business in China under present postal regulations. What is needed to make this line of business successful is a new postal arrangement between the two Governments which would allow parcels weighing at least 7 pounds (11 pounds would be much better) to be transmitted through the mails, and by which the Chinese post-offices could issue international post-office money orders. With such postal facilities and catalogues printed in the Chinese language the possibilities of the mail-order business in China ought to be almost unlimited.

The foreign population in Manchuria, exclusive of Japanese, is still very small, and catalogues printed in the English language are useless in the hands of at least 98 per cent of the native population. The adult white population of Mukden at present numbers between 60 and 75 persons, all of whom are English speaking. Among the Chinese official classes there are perhaps 20 persons who can read English. Catalogues, say, 10 or 15, which I will be glad to distribute among this English-speaking population, might serve to introduce goods in this vicinity, but it is obvious that no great amount of business is to be had from that source.

ASIATIC TURKEY.

MAIL-ORDER BUSINESS WITH SYRIA VIA EUROPEAN PARCEL POST.

Consul Jesse B. Jackson, of Aleppo, makes the following suggestions for inaugurating and conducting trade by post, with residents of northern Syria:

There is no reason why a profitable mail-order business can not be established between American houses and the people of northern Syria, but it will require a certain amount of careful study of the local situation, and an application of some methods that are not now in practice by mail-order houses operating only in their own country. Americans resident in this country are the most likely purchasers from firms located in the United States, principally because they are not only familiar with the language, descriptions, prices, and terms contained in the catalogues, but also with the nature and quality of the articles therein described. However, as there are but comparatively few American citizens in this province, it is desirable to establish business relations with the numerous families of other nationalities residing within the district.

This can be accomplished by communicating with them in a tongue with which they are familiar. Most families of the better classes of the people of this city have one or more members who are acquainted with French, and it is with such families and their connections that it would be most advantageous to deal. In order to interest these people in American goods, it appears necessary to send them catalogues or other literature and correspondence containing full descriptions, prices, and terms set forth in French. This is not a difficult undertaking and offers profitable returns on the investment. Lists of those parties whom it is sought to interest could be secured at a nominal cost by addressing, through this consulate, parties capable of compiling such lists by a canvass of the city, after which, any firm in the United States possessing the names and addresses could, in its own way, prosecute the exploration of the field.

DIFFICULTIES MAY BE OVERCOME.

There is a market here for such articles of clothing and general household use as are usually sold by mail-order firms, and as American goods are generally regarded as superior in quality and practicability, the difficulties could readily be overcome by anyone thoroughly interested in the question.

In the absence of parcel-post facilities direct from the United States, all goods must be shipped by express or otherwise as far as Great Britain or some other European country, from where they may be forwarded by parcel post to Turkish ports. This is an important question that must be taken into consideration in connection with the consignment of small allotments of goods to Asiatic Turkey, and which more than anything else, tends to impede the progress of trade here with American mail-order houses. This consulate welcomes inquiries from interested parties on any other phase of this question, and will render any possible assistance toward establishing closer business connections between the people of this district and American firms.

BRITISH INDIA.

ENGLISH HOUSES AND ENGLISH GOODS OCCUPY THE FIELD.

Consul Wallace C. Bond, of Karachi, writes that mail-order catalogues received at that consulate were prepared for winter trade in the United States, and that a more unsuitable selection of bargains could not have been made for the markets of India. The consul continues:

The people of India want cork helmets, canvas slippers, duck and flannel suits, etc., the requisites of people living in probably the hottest climate in the world. Warm furs and heavy woolen underwear have no attraction for them.

American mail-order houses desiring to establish their trade in India must realize that in order to succeed they must compete with the large department stores of Calcutta and Bombay. Stores in these places are owned by English companies and are managed by Englishmen who have made a special study of Indian needs and conditions. These stores sell a considerable amount of American goods, such as shoes, watches, clocks, safety razors, etc., and there is a constant and increasing demand for such things.

The most serious obstacle which the American houses have to encounter is the length of time which must elapse between the sending of the order and the receipt of the goods. No one here wants to wait eight or ten weeks for articles which may be secured in so many days from Calcutta or Bombay.

For the better grade of store goods the Europeans in India depend upon the shops of London and Paris. In spite of this the Indian stores do a heavy business, and as nearly all of them are incorporated and at regular intervals publish a statement of their financial condition, they appear to be prospering and paying good dividends on a considerable capitalization.

The only practical way for American mail-order houses to do business in India is for them to establish branches in Calcutta, Bombay, or Karachi, ship goods to India by freight, and build up a mail-order business from one of these cities as a base or center of operations. No doubt if American houses should establish branches in India a good share of the business of the country would go to them. Even now the New York department stores can compete with the Bombay stores, both in the quality of their wares and the prices asked. The time handicap is the one which prevents American houses doing business.

KONGO.

BUSINESS MAY BE INTRODUCED BY MISSIONARIES.

Consul-General William W. Handley, of Boma, in response to a New York inquiry, makes the following suggestions relative to conducting a mail-order business in Kongo:

From the American point of view the catalogue is well gotten up, and will serve as a great convenience to English-speaking people in the African State of Kongo in ordering any of the numerous articles offered for sale, and especially as most of them can be imported by mail. There are, however, only about 2,000 white men in this country, spread over an area one-fourth the size of the United States. Transportation is expensive and difficult, postal service necessarily slow and irregular. About 95 per cent of the population are not familiar with the English language. Taking these conditions into consideration it will be understood why it is not likely that large quantities of American goods can at present be sold through the mail-order system.

French is the language by which the white man in the Kongo conducts all his correspondence and business. The Belgians and Portuguese residing here do not, as a rule, speak or read English. Consequently it is important that all catalogues or advertising matter should be printed in the French language.

There are about 50 American missionaries living within this territory, whose civilizing work and influence among a large portion of the 15,000,000 natives comprising the population will undoubtedly result in largely increasing the demand for light-weight, cheap clothing, and for numerous household articles. These agents of civilization are pioneer salesmen, and are instrumental in introducing products of their own country. In a large area of the Kongo money is not in circulation, and has no value in the eyes of the natives, consequently all payments to them for produce, labor, food, etc., must be in goods of some kind. Where there are large mission stations in the interior at places distant from the principal villages in the lower Kongo, large quantities of trade goods must be constantly on hand, owing principally to the difficulties of river transportation in the dry season.

One of the first steps to be taken at the present time aiming at the introduction of American goods into this country by the mail-order system is to get in touch with the missionaries who import trade goods. English catalogues can be used for this purpose. Then later on as business increases it would be advisable to send catalogues in the French language to Belgian, Portuguese, and French traders.

[The addresses of supervising missionaries of four different societies working in the Kongo are on file in the Bureau of Manufactures. From these the addresses of individual missionaries may be secured for distribution of catalogues.]

BARBARY.

AN AMERICAN TRADE BY MAIL ORDERS CAN BE BUILT UP.

Consul William Coffin, of Tripoli (Barbary), reports as with regard to the best manner of building up trade by mail orders in that part of northern Africa:

Although there are no resident Americans in Tripoli outside of this consulate, I am of opinion that many articles of American manufacture would interest individual buyers here. In view of the obstacles of language, distance, and of any directory from which a list of possible purchasers could be made up, I suggest attempting the development of a mail-order business through some of the commercial agents here. There are a number of these and they frequently do, with European houses, what amounts practically to mail-order business, on behalf of individuals. A list of the principal agents is herewith given. [List on file in the Bureau of Manufactures.]

With reference to the question of transportation, I desire to call attention to the fact that there is an Italian post-office in Tripoli, and it is possible that the provisions of the parcels-post convention, which went into effect on August 1, 1908, between Italy and the United States, can be extended to the Italian post-office in Tripoli.

RUSSIA.

SMALL AMERICAN POPULATION—HIGH DUTIES—GOOD LOCAL FIRMS.

Consul-General Hunter Sharp, of Moscow, does not regard that Russian city as a promising place for the development of a mail-order business. He writes as follows:

Owing to the few Americans residing in Moscow, the high rate of duty, and the time consumed in shipment, the field is limited for a mail-order business from the United States. There are many large concerns here handling house furnishings and wearing apparel for men, women, and children. [A list of English-speaking residents of Moscow is on file in the Bureau of Manufactures.]

PARCEL-POST CONVENTIONS.

COUNTRIES WITH WHICH THE UNITED STATES HAS CONVENTIONS.

According to official information furnished by the Post-Office Department, the United States has parcel-post conventions with 38 countries, and efforts have been made to have the rate of postage and limit of weight uniformly 12 cents a pound and 11 pounds, respectively. This has been accomplished, save with regard to France, Sweden, Denmark, and Hongkong, which, it is hoped, will shortly signalize their consent to raising the weight from 4 pounds 6 ounces to 11 pounds; and Japan, which has consented to the increased weight, but is unable to put it into effect until certain formalities have been completed. The main features of the parcels posts to foreign countries are as follows:

The limit of value of packages is not uniform. To Ecuador, France, Denmark, Sweden, Hongkong, and Japan it is $50; to countries in Europe (outside of the United Kingdom and Germany) and to Australia it is $80; to the United Kingdom, Germany, and all other countries there is no limit to the value of packages sent thereto, although the value of packages sent from the United Kingdom and Germany to the United States is limited to $80.

The following are the countries with which parcel-post conventions are in force:

America: Bahamas, Barbados, Bermuda, Bolivia, British Guiana, Chile, Colombia, Costa Rica, Danish West Indies, Ecuador, Guatemala, British Honduras, Honduras, Jamaica, Leeward Islands (Antigua, St. Kitts, Nevis, Dominica, Montserrat, and the Virgin Islands), Mexico, Newfoundland, Nicaragua, Peru, Salvador, Uruguay, Venezuela, Windward Islands (Grenada, St. Vincent, the Grenadines, and St. Lucia).

Asia: China, Hongkong, and Japan (including Formosa, Karafuto, and Korea).

Australasia: Australia and New Zealand.

Europe: Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, and the United Kingdom.

ADMISSIBLE AND PROHIBITED ARTICLES.

Any articles admissible in the mails of the United States may be sent, in unsealed packages, by parcel post, except the following, which are prohibited from transmission: Publications which violate the copyright laws of the country of destination; poisons and explosive or inflammable substances; liquids and substances which easily liquefy; confections and pastes; live or dead animals, except live bees, and dead insects and reptiles when thoroughly dried; fruits and vegetables which easily decompose, and substances which exhale a bad odor; lottery tickets or advertisements or circulars relative to lotteries; all obscene or immoral articles; articles which in any way may damage or destroy the mails or injure the persons handling them. No article is excluded from the parcel-post mails solely because it is dutiable in the country of destination. Any article absolutely prohibited admission to the regular mails for any country is also inadmissible to parcel post for that country.

A communication of the nature of personal correspondence must not accompany or be written on any parcel. If such written matter be found, it will be placed in the mails if separable, and if inseparably attached the entire parcel will be rejected. If, however, any such parcels are forwarded, the country of destination will collect upon the accompanying communication or communications double the letter rate of postage prescribed by the Universal Postal Convention.

Parcels must not contain separately addressed packages to persons other than the persons named on the outside address on the package itself.

The department is not responsible for the loss of or damage to any parcel.

HOW TO MAKE PARCELS FOR FOREIGN COUNTRIES.

A parcel must not be posted in a letter box, but must be taken into the post-office and handed to the postmaster or other postal official in charge.

Every parcel should bear a complete and legible address; be marked conspicuously "parcel-post," and bear the name and address of the sender in such a manner as not to be mistaken for the address of the parcel.

Every parcel must be securely and substantially packed, but in such a way that it can be opened without damaging its cover in order that its contents may be easily examined by postmasters and customs officials. Boxes with lids screwed on or nailed on may be used, and bags closed by means of sewing, provided they are presented at the post-office open for inspection and are then closed by the senders. Parcels not properly wrapped should not be accepted for mailing.

Postage on every parcel must be fully prepaid at the rate applicable thereto as indicated in the foregoing statement of the Post-Office Department. The rate on parcels, it must be remembered, is so much per pound or fraction of a pound.

The sender of a parcel to any country indicated in the foregoing list of countries, except Barbadoes and Great Britain, may have the parcel registered by paying a registration fee of 8 cents, and will receive the "return receipt" without additional charge therefor, provided he demands a return receipt when he mails the parcel.

A parcel not more than 3 feet 6 inches in length may measure 2 feet 6 inches in girth, or around its thickest part. A shorter package may be thicker; thus, if it measures no more than 3 feet in length it may measure as much as 3 feet in girth or around its thickest part. These remarks do not apply to parcels for Colombia, Costa Rica, or Mexico. The length of packages therefor must not exceed 2 feet no matter how small the packages may be in girth, and the girth must not exceed 4 feet around their thickest part.

The foregoing are but leading pointers going to show how packages should be prepared for transmission to foreign countries with which the United States has parcel-post connections. All other information relative to the subject can be obtained at post-offices, which are expected, by the Post-Office Department, "to assist the public to an understanding of the parcel-post and the advantages it affords."

REQUESTS FOR CATALOGUES.

NATAL.

EXPORTERS MAY FILE ADVERTISING AND PRICES AT AMERICAN CONSULATE.

Consul Edwin S. Cunningham, of Durban, gives the following list of articles for which there is a market in Natal and South Africa, and informs that catalogues, prices, etc., received from manufacturers will be indexed and filed in the consular reading room for the convenience of local business men:

Agricultural implements and machinery of every description; acetylene gas lamps; aluminum wares; automobiles; barbers' furniture and supplies; bath cabinets; bathroom fixtures; bedsteads (metal); blacking and shoe polish; boats (row and motor); boots and shoes; brush ware; cane mills and crushers; canned vegetables; cards (playing); carriages (baby); cash registers; cigars and cigarettes; clocks and watches; condiments; cotton cordage; corks and cork specialties; cork pullers; corsets; cotton drills; cotton blankets and sheets; cotton piece goods; crushers (stone and ore); coal cutters; dental supplies; dairy equipments and supplies; dry goods; drills (artesian well, blacksmiths' and rock); electrical supplies; elevators; engines (gas and gasoline, kerosene and naphtha, marine, portable, and traction); fences (metal); filters (water); fire extinguishers; fittings (steam, gas, and water); freezers (ice cream); fruits (canned and evaporated); furniture and fixtures (household, camp, lawn, office, and bank); games and amusements (indoor and outdoor—beach); glassware (druggists' and table); groceries; hammocks; hardware and cutlery; hats and caps; heels (rubber); hollow ware; hose (water); hubs, spokes, and felloes; incubators; instruments (musical, scientific, and surgical); kitchen ware; lamps and lanterns; lavatories and fixtures; leather; machines (adding); machinery (brickmaking, centrifugal sugar, coal and ore handling, coal mining, soap making, and sugar house); mattresses; meats (tinned); motors (electric, gas, and water); milk bottles; novelties; office supplies; optical goods; patent medicines and pharmaceutical supplies; paints and varnishes; paper (printing and writing); pens (fountain); phonographs and supplies; photographic supplies; plumbers' supplies; rams (hydraulic); razors; refrigerators; roofing; rubber sundries and goods; saddlery and harness; safes and vaults; scales and spring balances; sewing machines; sheep shears; soaps; sprayers and sprinklers; stationery; shearing machines; steel

(corrugated and wire); sugar-cane implements; sweepers (carpet and lawn); telegraph and telephone supplies; toilet articles; tools (farriers' and butchers'); toys, and typewriters and supplies.

AGRICULTURAL IMPLEMENTS—BUREAU OF INFORMATION.

While advertising covering all these lines is asked for, a special request is made for catalogues, prices, and other information relative to agricultural implements and machinery of every description, including that for use in sugar mills and on sugar plantations; petroleum, gasoline, and alcohol motors, furniture, general hardware, plumbers' supplies, lamps and stoves using alcohol as fuel.

A commercial information bureau has been established at this consulate, where catalogues and full particulars relative to articles of American manufacture are carefully indexed and filed for the information of all reputable men of business in Natal who desire to purchase anything which the United States has to sell. This bureau will be of material advantage to the American producer and exporter; but in order to attain the greatest efficiency, it is necessary that it should be supplied with complete descriptive literature concerning all products likely to find a market in this country.

Exporters are requested to cooperate in this venture by keeping this consulate supplied with two copies of their latest catalogues, as well as the following important information: Cable address and codes used; export discounts and terms of payment (if discounts are confidential this should be stated); do you quote f. o. b. at American seaport; references; nature of goods exported; may orders be sent to you direct or only through local or European agents; list of your branches, or names of your agents in South Africa. It will greatly facilitate trade if information of this nature is on file at the consulate, so that inquiries may be referred to agents on the spot.

MEXICO.

COMMERCIAL, INDUSTRIAL, AND OTHER LITERATURE REQUESTED.

Vice-Consul John R. Silliman, of Saltillo, calls the attention of American manufacturers to the opportunity of advertising by means of catalogues in the Mexican State of Coahuila. He writes:

In the capitol of the State of Coahuila, located in Saltillo, is maintained a library, which is opened daily to the public without charge. It is well used, especially by students. In a recent conversation the librarian said that he would be glad to make a place on the tables for any suitable American publications, suggesting college catalogues, trade, commercial, and industrial magazines and reports, including even catalogues of exporting firms in all lines. Of course, if these were in Spanish they would find more readers, but even in English they will be useful, since this language is getting to be more and more generally known, being required now in all the schools. Anyone interested can readily find an acquaintance who can translate for him.

The American consulate keeps on file all such literature and catalogues as are sent to it, and invites attention to them as opportunity occurs; but where one person comes to the consulate a hundred go to the public library. So it is very clear that a much more general attention might be enlisted by taking advantage of this offer of the librarian. The consulate would undertake to deliver all suitable publications sent to it in duplicate for this purpose.

RAILWAYS.

FOREIGN DEVELOPMENT.

CANADA.

REPORT OF SURVEY OF ROUTE OF HUDSON BAY RAILWAY SUBMITTED.

Vice-Consul-General Carl R. Loop, of Winnipeg, furnishes the following interesting information concerning the first progress report of the surveys of the Hudson Bay Railway, as submitted to the minister of railways at Ottawa:

The report opens with brief descriptions of the country surveyed by the engineers. They report having encountered between 250,000,000 and 300,000,000 feet of logs immediately along the right of way, with the possibility of much more along the tributary streams, and that there are huge areas of timber suitable for pulp wood and ties along the whole route. Rich agricultural lands were found along the Mitishto and Grass rivers as far as Split Lake and along both sides of the Nelson River to Hudson Bay. From Split Lake to Churchill the land is not so attractive, the open country being in small patches mostly timbered and needing drainage; for 40 miles out from The Pas, there is a large quantity of good limestone available, suitable for building purposes. Farther to the north, where the rock is largely Huronian, richly mineralized specimens have been found in many localities. The whole country is cut with numerous lakes rich in fish, while game and fur-bearing animals are found everywhere.

WATER POWER AND TRANSPORTATION.

The whole country south of Split Lake is full of rivers and lakes, giving good communication with the railway lines for the carrying on of the lumbering and other industries which may be established in the future. Water-power sites are abundant on nearly all the rivers and streams, many offering opportunities for development at a minimum cost. North of Split Lake the chief streams of importance to the railway are the Little Churchill and the Deer rivers, both of which offer convenient routes for the transportation of men and supplies. The Churchill, although a very large river, is not particularly useful for transport, except for a short distance at its mouth. It is probable, however, that it would furnish many power sites of large capacity should it ever be desired to electrify the system, and these at a minimum of cost.

The Nelson River, on the other hand, may be described as one of the greatest rivers of the world, as regards the actual volume of water discharged into the bay. Its total length is approximately 400 miles, and its drainage area is tremendous. Its tributaries cover the whole of Manitoba, the greater portions of Alberta, Saskatchewan, North Dakota, and Ontario west of the Great Lakes, while they also enter

Montana and Minnesota. Its discharge has been roughly estimated at five times that of the Ottawa River at the Chaudiere Falls, at Ottawa. Many soundings were taken over the greater part of its length, and depths of water were found from 50 to 60 feet, with a current not exceeding 2 to 3 miles an hour. Lake Winnipeg furnishes an extension of this water route to within 20 miles of the city of Winnipeg. From information obtainable, it would seem that a canal might be built along the Nelson River which would enable ocean-going steamers to enter Lake Winnipeg, where a good channel, the minimum depth of which is 33 feet, already exists to the south end of the lake. The amount of power which is available for development along the Nelson River is enormous, and places the Hudson Bay Railway in a very favorable position to use electricity for the operation of its trains.

CHURCHILL HARBOR.

In touching on the harbor at Churchill, the report states that no extensive examination has yet been made by the engineers, though a considerable amount of information has been obtained from officers of the Hudson Bay Company. It states that from information at hand it seems to be the best natural harbor on the west coast of the bay, though the depths of water are not of the most desirable, the natural anchorage for vessels drawing 20 feet of water being rather restricted.

A great deal of dredging and filling would be necessary to furnish a commercial port capable of taking care of a large volume of traffic. Most of the portion to be dredged is at present under from 1 to 2 fathoms of water at low tide, leaving an average depth to be dredged of at least 20 feet. Rock appears along both shores, indicating the possibility of striking solid rock excavation before the proper depth is obtained in the harbor. This work would be very expensive. The shallows in the harbor have undoubtedly been caused by silt, so that whatever basin is excavated would require constant attention to keep it clear.

NELSON HARBOR.

Port Nelson, which lies at the mouth of the Nelson River, seems to possess great possibilities, but would require further surveys to determine definitely its value as a port for the Hudson Bay route. From information available, a channel 10 miles in length approaching the harbor will require more or less improvement. The surface indications are that this could be very cheaply done, as it would be in material easily handled. On the only maps available, 4 or 5 fathoms are shown to within 10 miles of the head of the tide water, or 60 or 70 miles from its mouth.

The report gives tables, covering a period of about one hundred years, of the dates of the opening and closing of navigation at both Churchill and Nelson, copied from the data supplied by officers of the Hudson's Bay Company at both points. According to these reports, the season of navigation at Nelson averages from one to two months a year longer than at Churchill, the shortest season at Nelson being about the same as the longest at Churchill. These same officers state that the harbor at Nelson never freezes entirely across, though more or less drift ice is encountered in the winter months.

The route to Churchill is completely covered so far as the work has progressed, the report giving in detail the character of the country traversed. The first division of 150 miles from The Pas to near Setting Lake is the lightest, being mainly earthwork, with some small stretches of muskeg. The cost of clearing and grubbing will be comparatively heavy, but on the whole it presents no great difficulties.

CONSTRUCTION DIFFICULTIES.

The second section, from Setting Lake to the summit between the waters of the Nelson and the Churchill, about 175 miles, is expensive work, entailing heavy rock cuts, more particularly along the Odei and Burntwood rivers. The country is badly broken up and would necessitate the moving of large amounts of material. An optional route along the east side of Setting Lake and Grass River is being made, where there are indications of a cheaper line. Section three, from the divide to Churchill, about 140 miles in length, presents great difficulties in the way of making an estimate of the cost of construction. A great many muskegs are met with, the last 100 miles especially being almost entirely a sort of moss-covered tundra, which appears to be perpetually frozen to within a few inches of the surface. Definite information as to the cost of handling this material or as to how it will carry a railway line is not available.

The grades adopted throughout have been two-fifths of 1 per cent northbound and three-fifths of 1 per cent southbound. No difficulty or particularly heavy work has been encountered which could have been materially lessened by the adoption of heavier gradients. In fact, it seems probable that the southbound grade might be reduced to one-half of 1 per cent without greatly increasing the cost. By taking the quantities and classification of the material as estimated by the engineers on the work, it is estimated that the cost of grading would average 55 cents a yard. The prices used were $1.50 per yard for solid rock, 60 cents a yard for loose rock, and 25 cents a yard for earth or common excavation. The estimate includes the material to be moved in the construction of the roadbed, including sidetracks, terminal tracks, and drainage ditches. The northern hundred miles toward Churchill being mostly over an open waste, more or less trouble with snow may be expected.

UNFINISHED SURVEY.

The work done on the line to Port Nelson to date consists of about 100 to 120 miles of line run from The Pas to the point where the line diverges from the one to Churchill. The crossing of the Nelson River has been fixed upon, and the country between this crossing and the Churchill route has been examined. From the Nelson River crossing to Port Nelson the country is under examination at the present time, but a great deal of information has been gained from reports published by the geological surveys. If their reports of this part of the country are as accurate as they have been found in other districts, it is not likely the estimate furnished will need any great revision.

On the route to Port Nelson the tundra country is not encountered to any great extent, such stretches as are met with being short detached pieces, resembling more the spruce swamps found in Manitoba. Very little rock work will be required on this line and, the location being almost entirely in bush country, the same snow problems will not arise as are met with on the northern 100 miles on the Churchill line.

DATES OF NAVIGATION OPENING.

The comparative tables showing the relative dates of opening and closing of navigation at Churchill and Nelson are as follows:

Fort Churchill.—Average season; opened June 19, closed November 18, time open, 5 months; earliest opening June 5, 1863; earliest closing November 1, 1837; latest opening July 2, 1866; latest closing December 4, 1861 and 1885; longest season, 5 months and 18 days, 1846; shortest season, 4 months and 8 days, 1838.

Port Nelson.—Average season; opened May 19, closed November 20, time open, 6 months; earliest opening May 7, 1846; earliest closing November 3, 1878; latest opening June 1, 1828; latest closing December 9, 1851; longest season, 6 months and 18 days, 1846; shortest season, 5 months and 13 days, 1853.

BRITISH COLUMBIA.

AMERICAN GOODS FOR THE ORIENT AND EUROPE VIA VANCOUVER.

The following information concerning the acquirement by American railway companies of large holdings in Vancouver, and the purposes for which such holdings were acquired, is furnished by Consul-General George N. West, of that Canadian port:

Two American railways have made large purchases of land with water frontage for terminals, stations, wharves, warehouses, etc., in Vancouver for the purpose of handling the passenger and freight business from the Orient and other trans-Pacific ports, as well as from British Columbia to the United States. The property already purchased by these companies, and other property for which they are negotiating, borders on an inlet known as "False Creek" and has a deep-sea entrance from English Bay to the west side of Vancouver city. False Creek would require considerable dredging to give a sufficient depth of water for ocean-going vessels, but as the bottom is soft mud, with but few bowlders or other rock ledges, the cost would not be excessive—in fact, the value of the reclaimed land would exceed in value the cost of dredging. A map of Vancouver Harbor, which shows the proposed location of the new terminals, is forwarded [and may be seen at the Bureau of Manufactures].

The Canadian Pacific Railroad owns and controls the larger and more valuable portion of the water front of the present harbor, the balance being divided among various small holders and the city, so that it would be very costly, if not impossible, for any railroads seeking ground sufficient in extent for stations, warehouses, and docks to obtain it here. The west side of the peninsula borders on English Bay and False Creek, and it is on the latter the Great Northern and Northern Pacific have acquired their holdings, and, when dredged, it will form as safe a harbor as that at present in use. A large portion of the shore of English Bay may also be used for docks by the erection of a breakwater.

OBJECTS IN VIEW IN SECURING VANCOUVER PROPERTY.

The Vancouver papers state that one object in securing the property here is to have a port of shipment outside United States territory free from the operation of the United States Interstate Commerce Commission's rulings, requiring the publication of the proportionate amount of rail and ocean freight rates charged on exports and imports from and to the Orient. Another point brought out in this interview is the fact that they are looking forward to making this port available for the shipment of raw and manufactured cotton from the Southwestern States to the Orient, and if, as is possible, this port is made the shipping port for wheat and other grains to European ports, from Alberta and western Saskatchewan, it will undoubtedly be availed of by shippers of American grain and other products of the West.

A convention has been held in Calgary, province of Alberta, of all persons interested in this movement, and it was determined that a united effort should be made by all interested parties, including the governments of British Columbia and Alberta provinces, extending their pecuniary aid and influence to make the proposed shipments a success for crops of 1909. Some small shipments are now being made by steamers to Mexico, thence by rail across that country to ports on the Gulf of Mexico, and then reshipped by steamer to England, this route being cheaper than by rail from Alberta Province to St. John, New Brunswick, and thence by steamer to Liverpool.

The people of British Columbia, and citizens of Vancouver especially, are alive to the situation and will use every means possible to help this business enterprise and to bring the trade to this port. Private parties are now investigating the matter, and propositions have been made for the erection of elevators for the storage, inspection, and grading of wheat at this port by seeking to have taxes remitted for a series of years on such structures and aid of the city to procure a suitable site. At this time special efforts are being made to have railroads and steamship lines make Vancouver terminal points, to guard against any encroachments on the business of the port that may result from the opening up of Prince Rupert, the Pacific terminal of the Grand Trunk Pacific Railway, now in course of construction, and which will be in operation probably within the period of two years.

It is believed and understood in this community that these propositions are to become accomplished facts at an early date.

ONTARIO.

RAILWAY BUILDING AND EXTENSIONS TO HANDLE GRAIN TRADE.

Consul Harry P. Dill, of Orillia, furnishes the following information concerning the building and double-tracking of railways in the Province of Ontario:

A contract for the building of an elevator at Flat Point, Victoria Harbor, Georgian Bay, has been let by the Canadian Pacific Railway Company to a Chicago company. The capacity of the elevator is to be 2,000,000 bushels, and the contract price is said to be close to $1,000,000, which is to include the building of wharves and the necessary equipments for handling this vast quantity of grain. The work is to be completed within a year.

The closing of this contract assures the building, by the Canadian Pacific, of a line from this elevator, through Orillia and Lindsay to Peterborough, a distance of 100 miles, where it will connect with their main line to Montreal and Quebec. They already have the line completed from Flat Point to their Toronto-Parry Sound line at Coldwater. There has been some controversy over the route through Orillia, but an agreement has been reached which gives the Canadian Pacific a line close beside the Grand Trunk and along the shore of Lake Couchiching. In consideration of this, the Canadian Pacific is to fill in the lake front along its line and out into the lake for 6 or more rods. This made land will be an annex to the town's park system, and the new shore will have a pier and boulevards.

The Canadian Northern Ontario Railway has a line from Toronto to Parry Sound, passing east of Orillia, and is this spring completing a 9-mile line here, running into the town over the Grand Trunk. It may be built on to Lake Couchiching, and again join the main line at Washago or Harvest, 12 or 15 miles north. The company may also build to some Georgian Bay point, erect elevators, and secure a share of the immense grain export business.

The Grand Trunk (Midland branch) has for some years past had surveying parties in the field to find a route whereby the heavy grades between Peterborough and Port Hope could be overcome. It is now reported that a line with much easier grades has been located, leaving the present line at Garden Hill Station and running easterly to Cobourg, a station 7 miles east of Port Hope.

As soon as this question of grade is settled it is the intention of the management to double track the entire Midland line—140 miles. The western grain is brought to Midland, elevated and transshipped. It is here that the largest percentage of export grain is received. Vessels with a capacity of 300,000 bushels, and drawing 20 to 22 feet of water, are frequent visitors at Midland. There are 3 elevators at Midland, with a capacity of 1,000,000, 1,000,000, and 2,500,000 bushels, respectively. [Illustrations of the Midland elevators, and a map of the proposed extensions mentioned in the foregoing report, are on file in the Bureau of Manufactures.]

CHINA.

OPENING FOR AMERICAN SUPPLIES—STEADY PROGRESS IN CONSTRUCTION.

Vice-Consul-General William B. Hull, of Canton, under date of December 11, furnishes the following information concerning the conditions of railways in south China, the report covering the Sunning Railway having been prepared by Mr. Lam Ying Chee, interpreter to the consulate-general:

The extended period of sixty days which was given for the collection of the second call on the shareholders of the Canton-Hankow Railway ended on December 9. During the last few days the offices of the nine charitable associations which have in charge the collection of the bulk of the money have been crowded by shareholders who wish to make their payments. There was such a large number present during the last two days that many were unable to make their payments and have now asked for an extension of time in which to pay in their second installment.

RAILWAY CONSTRUCTION AND EXTENSIONS.

It is said that the administration now has in hand ample funds to complete the Canton-Hankow Railway to the border of Hunan Province. The company has recently made a survey from Fatshan to Kongmun, and it is reported that it will construct this line when the main road has been completed to the border of the Province. It is said that within six or seven months this railway will be in the market for 200 freight cars and probably 50 passenger cars.

The owners of the Canton-Samshui division of the Canton-Hankow Railway of the three Provinces are now about to undertake the extension of their line to a port on the West River called Shui Hing, a distance of about 28 miles. It is believed that with this addition the line will secure practically all the passenger traffic from the West River ports and that their returns will thereby be largely increased.

A company is also being organized to build the line from Canton to Macao, a distance of about 95 miles. A survey has already been made and the undertaking will doubtless be started before long.

Construction work out of Canton on the Chinese section of the Canton-Hongkong line is progressing satisfactorily and cars of British make are now on the way out. They hope to have rails laid for construction trains to Sheklung, a distance of 30 miles, inside of four months.

American manufacturers of railway supplies looking for export trade will do well to give some attention to this section of China, as with the present activity there is every indication that the market will be in time one of considerable importance.

THE SUNNING RAILWAY.

The first terminal of the Sunning Railway is located at Kung Yik port, 120 miles southwest of Canton. Kung Yik is a port reclaimed by the villagers of Sunning district in 1905, having an area of about 100 acres, of which the railway owns a little over one-half, the rest being owned by the villagers. About 700 houses of semi-European construction have been built at Kung Yik.

The whole line when completed will be about 40 miles, and there will be 20 stations, or more if inducements offer. At present about 36 miles of the road have been completed, of which about 32 miles are in operation. Trains run three trips a day from each end, taking about two hours for the trip. The average daily receipts are from $225 to $250 on passenger traffic and from $40 to $50 on freight, with a daily expense of about $150. The capital of the railway is $1,350,000, divided into shares of $2.50 each, all of which are owned by Chinese. The estimated amount required to complete the railway is $1,200,000. Upon obtaining the approval of the board of transportation and posts the line will be extended to Kong Moon, a distance of about 26 miles, and the capital will be increased by $500,000.

A RAILROAD ORIGINATED AND BUILT BY CHINESE.

The idea of building this railroad originated with Mr. Chin Gee Hee, who was then in the United States, and some subscriptions for stock were secured from other Chinese residents of the United States. The majority of the stock, however, is now owned by residents of the Province of Kwangtung. When the road was surveyed the villagers were very much opposed to it and refused to sell land to the company to be used for railroad purposes, but after meeting all these obstructions for a considerable time with great patience the projector finally obtained their consent to and cooperation in its construction.

The line is being constructed entirely by nonscientific Chinese. No person of any nationality other than Chinese has ever been connected in any way with the building of this road. It is being built under the direction of Mr. Chin, president of the railway, who returned to China from the United States after about forty years' experience there, some of which was as a railroad foreman and contractor. He has no engineering or railroad knowledge other than the experience gained while in the United States. He has the help of about 100 Chinese foremen and laborers who came back from the United States, all with more or less experience in railroad construction. The construction work commenced in the middle of 1906 and part of the line was opened to traffic at the beginning of 1908. The whole road is provided with telephone lines for dispatching.

The rails weigh 60 pounds per yard, are 30 feet long, German made, and cost $32.20 per ton complete c. i. f. Hongkong. China pine is used for ties; at 57½ to 60 cents each. The average price of the land purchased was $350 per mow (about one-fifth of an acre). There are two loops, one at Kung Yik and one at Sunning. There are no turntables at present, but these will be put in at Kung Yik, Sunning, Chung Lau, and Au Shan. The head office is in Sunning city, 17 miles from Kung Yik port, where a small machine shop and a printing office are established. The machinery of the printing office was made by Cranston, of Chicago, and cost, including a complete outfit of type of Japanese make, approximately $4,000. At Kung Yik there are an office, a storeroom, a machine shop, a blacksmith shop, and a foundry. There are no overhead bridges or tunnels on the line. The road is sand, gravel, and earth ballasted, standard gauge and single track, with a side track at every station. All bridges are of pile trestle work. There are three pile drivers, ¾ ton, 1 ton, and 1½ tons, respectively. The grade is 1 to 5 per cent.

ROLLING STOCK.

The road has the following locomotives: Two Baldwin 4-drivers, at $9,500 each; 2 Baldwin 4-drivers, at $4,200 and $7,300, respectively; 3 German 6-drivers, at $9,700 each; all the foregoing c. i. f. at Hongkong. There are 8 first-class passenger cars, made in the United States by Harlan & Hollingsworth, each 55 feet in length, which cost about $8,000 each c. i. f. Hongkong. There are no second-class cars, but there are 8 third-class cars, made in Sunning, each 30 feet long. The trucks of flat cars were used in building these third-class cars; the wooden portion of the cars cost about $500 each. There are also 36 flat cars, made by the Middletown Car Company of Pennsylvania, with a capacity of 20 tons, which cost $800 each c. i. f. Hongkong; 10 box cars, of the same make and capacity, at $830 each c. i. f. Hongkong; and 40 dump cars, made by George Handy, San Francisco, capacity 6 yards, at $450 each c. i. f. Hongkong. The cars are fitted with automatic air brakes, screw and chain couplers, and buffers.

The president and constructor of the railway has never received more than a nominal salary of about $40 per month. The master mechanic receives $20; fitters, $7.50 to $17.50; blacksmiths, $12.50 to $15; engine drivers, $12.50 to $22.50; firemen, $7.50 to $9; conductors, $12.50; brakemen, $7.50 to $10; ticket sellers, $10; ticket collectors, $7.50 to $10; gang foremen, $7.50 to $12.50; foremen carpenters, $20; and carpenters, $7.50 to $12.50, all per month. Coolies receive 20 cents per day. Ten hours of labor constitute a day's work.

NORTHERN DEVELOPMENT.

PEKING TO SIBERIA—ROAD ALONG THE CARAVAN TRAIL.

Consul-General Edward T. Williams, of Tientsin, furnishes the following information concerning the approaching completion of the Peking-Kalgan Railway and the proposed building of the Peking-Kiakhta Railway, the one entirely built and the other to be built by Chinese and with Chinese money:

The Peking-Kalgan Railway, which is now nearing completion, is the only line in China financed, surveyed, and built entirely by the Chinese. The engineers are Chinese who have been educated abroad. Foreign engineers who have inspected the work so far as completed, speak very highly of it, and, aside from its commercial importance, the line is of value, therefore, as showing the capabilities of the Chinese people. Kalgan lies on the northern border of this province (Chihli), about 150 miles northwest of Peking, at one of the gates through the outer and older portion of the Great Wall. It is on the caravan route from Peking to Kiakhta on the Siberian border, the route over which the Russian trade with China used to be conducted. This trade is still of great importance. Kalgan contains a population of some 30,000 inhabitants, and about 500,000 camels are employed in the trade just mentioned. Northwest of Kalgan another caravan route branches from the Kiakhta trail and affords communication with western Mongolia and Turkestan.

The completion of this railway to Kalgan will greatly benefit the trade in hides and wool, in which the United States is largely interested, and will bring another important coal-mining region into easy communication with the seaboard.

ACROSS MONGOLIA TO THE SIBERIAN FRONTIER.

The line just being completed has been built with the surplus profits of the Peking-Mukden line, and it is proposed to employ future earnings of the latter line in an extension of the Kalgan Railway across Mongolia to the Siberian frontier.

Mongolia is a lofty plateau, lying from 2,300 to 5,000 feet above the level of the sea and bordered by ranges of mountains that rise in many places to 10,000 feet. The central portion is desert, but north, south, east, and west of this desert are vast areas of fertile soil. The Mongols are mostly nomads and depend upon their flocks and herds. It has been estimated that 25,000 horses, 10,000 head of horned cattle, 250,000 sheep, 330,000 hides, and a considerable quantity of furs are exported every year from eastern Mongolia, while from northwestern Mongolia as many as 70,000 horses, 30,000 camels, and 1,500,000 to 2,000,000 sheep are exported.

With the completion of the railway to Kalgan the appearance of long trains of camels in the streets of Peking will become more rare, and, as the line penetrates into Mongolia, more and more of the traffic will find its way by rail. Such a line will also do for Mongolia what our transcontinental lines have done for our Central and Western States.

MONGOLIA AND ITS PEOPLE.

Few persons realize what a vast territory there is here for settlement and development. Its area embraces more than 1,300,000 square miles, and the population is not quite 2 to the square mile. The lands belong to various tribes of Mongols, each of which has its own chief and its own organization. The people are not unlike our Indians, though their culture, on the whole, is of a higher type, as is indicated, indeed, by their pastoral life.

Chinese settlers are continually crowding into these territories and purchasing lands from the Mongols. New counties are continually being organized along the Chinese frontier, and the jurisdiction of the Chinese authorities being thus steadily extended into the dependency.

The construction of the proposed railway will doubtless hasten the settlement of the country, the cultivation of its fertile valleys, and the exploitation of its extensive forests and its mines. Communication with Europe will also be facilitated, inasmuch as the connection with the Great Siberian Railway will be made not far from Lake Baikal, and the time between Peking and New York—now about twenty-five days via Moscow and London—will be reduced to about twenty-two or less.

THE GREAT NORTHWESTERN CHINA RAILWAY.

The following extracts relative to the survey of the Kalgan-Kiakhta Railway are taken from Chinese Public Opinion:

> The ministry of communications has issued instructions to Taotai Chan, commanding him to make a careful survey from Kalgan to Kuei-huacheng and Shui-yuancheng, on the Shansi and Mongolian borders, so that the line may be extended to the two cities and thence to Kulun (Urga, capital of Mongolia) and Kiakhta, on the Russo-Chinese frontier. It will further be extended to Kansuh and Hsinchiang, forming the great northwestern link as approved by the Chinese Government.
>
> It is estimated that about 20,000,000 taels will be required for extending the Peking-Kalgan line to Kiakhta via Kuei-huacheng and Kulun, and it will take more than six years to build it. As Taotai Chan, who was educated in the United States, and is probably one of very few competent Chinese railway engineers who can build lines without foreign assistance, has shown skill and experience in building the Peking-Kalgan Railway, the ministry of communications will no doubt put the full responsibility of the extension on his shoulders.

MEXICO.

HOW TO SELL APPLIANCES AND EQUIPMENT FOR VARIOUS PURPOSES.

With reference to the prospects in the Veracruz consular district of Mexico for the introduction of railway appliances, windmills, hand and push cars, railway velocipedes, railway motor cars, water tanks, pumps, dynamos and motors, hoisting apparatus, gas and gasoline engines, etc., Consul William W. Canada submits the following practical information:

There is not a single firm in all this district that handles these goods as a specialty. In Mexico City, and in other places in the northern part of this Republic, may be found supply houses where such material may be purchased, either direct from stock or upon order.

Veracruz is situated in the section of Mexico known generally as the hot lands, and aside from two petroleum refineries, several cotton mills, soap factories, cigar and cigarette factories, etc., the entire district is agricultural, much of it being yet undeveloped lands. There is no doubt that with time this territory will become a splendid field for trade in the lines mentioned, and American manufacturers should not lose the opportunity of gaining not only a foothold, but of securing the greater part of this trade that is sure to materialize. Haciendas, plantations, cattle ranches, and railways would be the most probable purchasers, as there is no mining carried on in this State.

GOODS SHOULD BE SOLD TO CONSUMERS DIRECT.

Some business, of course, may be done in the principal cities, but any one entering this territory for the purpose of stimulating trade in the lines indicated, would do well to direct his energies to disposing of his goods to the consumers direct. All American plantation companies operating in this district have their headquarters in the United States, and can be reached there. A manager is usually left on the plantation, but he may or may not be authorized to make heavy purchases; however, on the other hand, railway companies have their general managers and material agents on the ground, and business may be done with them.

Among the importers of machinery and hardware in this part of Mexico there are none that would refuse an order for anything, and for this matter neither would a commission house; but it is extremely doubtful if any of these could be induced to purchase with a view of keeping such goods in stock, neither is it certain that they would take the initiative for their introduction. This would therefore have to be done by a representative of the manufacturer visiting the persons that might possibly be interested in the lines mentioned. This representative ought to be well posted in his particular line, and in addition thereto, he must be able to converse fluently in the language of this country. Names and addresses of importing machinery and hardware houses may be obtained by application to the Bureau of Manufacturers of the Department of Commerce and Labor, Washington, D. C., to which a list of the railways in this consular district is also forwarded. Any catalogues or descriptive circulars mailed to this consulate will be placed on view for the benefit of all interested persons. Only recently this was the means of effecting a purchase amounting to over $800 United States currency.

SPAIN.

PROPOSED SUBSIDIZED LINE BETWEEN VALENCIA AND MADRID.

Writing from Valencia, Consul Charles S. Winans gives the following outline of a bill, promoted by the Spanish Government, providing for more direct and rapid railway communication between that city and Madrid and which had passed the lower house of Congress without opposition. The plan is as follows:

The direction of the projected line is almost due west from Valencia via Utiel, Motilla del Palancar, and Tarancon, to Madrid. The saving in distance will be about 63 miles, reducing the shortest existing route from 304 to 241 miles, and as the new road must be equipped with the best modern material and rolling stock, the journey to Madrid, which now requires fourteen hours by the fastest trains (22 miles an hour), will be accomplished in five or six hours (40 to 50 miles an hour).

The contract for building and operating the road is open to foreign capital and enterprise, and it will receive a government subsidy of 75,000 pesetas per kilometer, equivalent to 120,701 pesetas, or about $21,000 United States gold per mile. A fifth of this subsidy, or about $4,200 per mile, must be refunded to the Spanish Government in installments extended over fifty years from the date at which the road is completed and in full operation. The other four-fifths of the grant, or about $16,800 per mile, is a free gift to the constructors.

CONDITIONS FAVORABLE TO CONSTRUCTION.

The land necessary for the track will generally be ceded on easy terms, as the localities and townships to be benefited by the new road are altogether without railway communication at present and are prepared to sacrifice land of little value under existing conditions to secure the immense benefits of a railroad placing them in direct communication with the sea on the one hand and the capital of the peninsula on the other as exits for their agricultural products.

The first section of the line, that connecting Valencia with Utiel, 54 miles, is already constructed and operated by the Compañía del Norte, but the contractors of the new road will have the option of building an independent line from Utiel to the port of Valencia, should they not be able to come to terms with the present owners of the railway referred to. In the latter alternative, however, no subsidy would be granted for such construction.

Spanish factories will probably be given the preference for rails, passenger and freight cars, and ties, but locomotives and tenders, buffers, axles and wheels, springs, signals, switches, turning tables, and similar supplies will no doubt be largely imported.

Further information and details can be had from the Ministerio de Fomento at Madrid as soon as the bill is passed and published in definite form in the Official Gazette of Madrid.

JAPAN.

CHANGE IN THE MANAGEMENT OF RAILWAYS.

Ambassador T. J. O'Brien, of Tokyo, furnishes the following information concerning recently issued imperial ordinances dealing with the management of railways in Japan:

Heretofore railway administration has been in charge of the department of communications, but by the new plan a board has been formed which will take over the entire management of the railways, independent of the cabinet. The premier will have a general control, but the present minister of communications has been appointed the first president of this board in addition to his other duties, and will no doubt perform all the functions generally incident to that office. The accounting will be done by the board, entirely separate from the other affairs of the Government.

It is believed that this step will correct the method which followed the sudden nationalization of the railways after the late war. [A translated copy of the imperial ordinances, transmitted by Ambassador O'Brien, is on file in the Bureau of Manufactures.]

TRAFFIC RETURNS.

GERMANY.

RAPID ADVANCE OF THE EMPIRE'S TRANSPORTATION SYSTEM.

Consul Will L. Lowrie, of Erfurt, states that official statistics recently published indicate that the German people are more frequent travelers now than they were ten years ago. He draws the following comparisons, which show the railroad development of Germany:

Each person in the Empire was satisfied to make thirteen journeys by railroad during the year 1897. This number increased to twenty-one in 1907. The average distance traveled also grew in the decade from 20.87 kilometers (kilometer=0.62 mile) in 1897 to 22.88 kilometers in 1907.

During the ten years, 1897–1907, the total length of standard-gage railways increased from 47,119 kilometers to 56,420 kilometers. In 1897 the Government owned 92.8 per cent of the total mileage, and 3,451 kilometers, or 7.2 per cent, were in control of private companies. At the close of 1907 the Government owned 92.5 per cent of the railroads, and 4,214 kilometers were in the hands of incorporated concerns. According to the statistics there were 32,077 kilometers, or 68.1 per cent, trunk or main lines and 15,042 kilometers, or 31.9 per cent, auxiliary lines at the end of 1897, as compared with 33,782 kilometers, or 59.9 per cent, and 22,688 kilometers, or 40.1 per cent, at the close of 1907. The trunk roads increased 5.3 per cent in the decade, while the subsidiary lines show a growth of 50.5 per cent in the same period.

With a total area of 540,778 square kilometers, Germany had 8.70 kilometers of railroad in 1897 for each square kilometer of territory, and in 1907 10.39 kilometers. In the former year the Empire had 53,510,000 inhabitants and in the latter 62,080,000, so that in 1897 there were 8.79 kilometers of railroad for each 10,000 people, and in 1907, 9.05 kilometers.

GROWTH OF TRAFFIC.

Rolling stock possessed by the standard-gauge railroads of Germany in the year 1907 was as follows: 24,259 locomotives, 50,097 passenger cars, and 511,150 baggage and freight cars. As compared with the totals in 1897 the increase in the number of locomotives was 43.7 per cent, passenger cars 48.8 per cent, and baggage and freight cars 41.4 per cent.

The total value of the traffic material increased from 2,067,840,000 marks (mark=23.8 cents) in 1897 to 3,348,780,000 marks in 1907. Of this amount the sum of 1,182,250,000 marks is represented by the locomotives and tenders, 9,240,000 marks by specially constructed cars, 654,520,000 marks by passenger coaches, and 1,502,770,000 marks by baggage and freight cars.

Passenger traffic increased largely in the decade. For the year 1907 the total receipts were 747,940,000 marks, and in 1907 they were 472,850,000 marks, showing an increase of 58.2 per cent. Each kilometer of railroad produced an income of 13,634 marks in 1907, as compared with 10,296 marks in 1897, an increase of 3,338 marks, or

32.4 per cent. On the other hand, the revenue from each 1,000 working kilometers of the passenger and baggage cars fell from 106 to 90 marks. Of the total revenue, the receipts of the passenger and baggage transportation amounted to 27.20 per cent in 1907, as compared with 28.23 per cent in 1897. Passenger traffic showed a net increase in receipts of more than 263,100,000 marks, or 57.8 per cent, and the transportation of baggage (none carried free) and dogs grew 9,850,000 marks, or 66.3 per cent.

PRESENT TICKET SYSTEM—TRAFFIC REVENUE.

Five classes of tickets are sold by the German railroads, including the special rates to the military. There are four grades of accommodation, from the first-class compartments upholstered in red plush to the fourth-class cars which are fitted with wooden benches. Second-class compartments are different from the first class only in the coloring of the upholstery, which is gray instead of red. The third-class compartments are not upholstered, but are the most used by the traveling public. The same car may be divided into three different classes. The fastest, or "D," trains carry only first or first and second class cars and a supplemental fare is charged, corresponding to the extra payment for limited trains in the United States. Fourth-class cars are supplied on the slow accommodation trains only, and the fare is very low.

Passenger traffic of the Empire in 1907 was divided among the five classes, by percentage, as follows: First, 3.42; second, 18.47; third, 42.55; fourth, 33.76; military, 1.80. Ten years ago the figures were as follows: First, 4.34; second, 23.53; third, 48.15; fourth, 21.15; military, 2.83.

The total kilometers traveled was 29,633,000,000 in 1907 and 16,190,890,000 in 1897, an increase of 83 per cent. The average receipts from each kilometer traveled by an individual in 1897 amounted to 2.81 pfennigs and in 1907 to 2.42 pfennigs, a decrease of 13.9 per cent.

Revenue from the transportation of freight increased from 1,124,020,000 marks in 1897 to 1,783,720,000 marks in 1907, a growth of 59.6 per cent, which is a good indication of the rapid commercial development of the country in the last decade. Each kilometer of railroad produced an income of 24,067 marks in 1897, as compared with 32,080 marks in 1907, an increase of 33.3 per cent.

The total income from traffic of all descriptions aggregated 1,674,980,000 marks in 1897 and 2,742,280,000 in 1907, an increase of 63.7 per cent.

VARIOUS EXPENSES.

Expenses of the traffic, not including interest charges, improvements of lines, or betterment of the service, increased from 933,440,000 marks in 1897 to 1,854,940,000 marks in 1907, or 98.7 per cent. The expense for each kilometer of traffic grew in the same period from 19,937 marks to 33,028 marks, or 65.7 per cent. The percentage of revenue to expenses was 55.73 in 1897 and 67.64 in 1907.

After deducting the cost of important renewals, widening and improvements of the roadbed, and the interest charges, the surplus of the total revenue over expenses amounted in 1897 to 741,540,000 and in 1907 to 887,340,000 marks, or 19.7 per cent increase.

The pay roll of the railroads in 1907 carried 695,550 names of officials and employees of all classes, including laborers, apprentices, and women, or 1 for each 89 inhabitants of the Empire. In 1897 there were only 227,797 employees, so that the increase in the decade amounted to 48.7 per cent, although the property length of the lines was extended only 19.7 per cent. The cost of this personnel was 1,083,610,000 marks in 1907 and 599,250,000 marks in 1897, an increase of 80.8 per cent. The total amount paid for labor in 1907 was proportionately larger than the growth of the number of names on the pay roll. On the average each person employed in 1897 received 1,281 marks a year, as compared with 1,558 marks in 1907, or 21.6 per cent more.

The property length of the narrow-gauge roads amounted to 1,384 kilometers in 1897 and to 2,100 kilometers in 1907, an increase of 51.7 per cent. To handle the traffic in 1907 these roads had 461 locomotives, 1,219 passenger cars, and 10,499 freight cars, as compared with 302 locomotives, 780 passenger coaches, and 6,858 freight cars in 1897.

The total revenue increased from 6,300,000 marks in 1897 to 13,200,000 marks in 1907, and the cost of operation grew from 5,750,000 to 10,160,000 marks, while the net revenue was 550,000 marks in 1897 and 3,040,000 marks in 1907.

PARAGUAY.

INCREASED RAILWAY EARNINGS DURING THE PAST YEAR.

Consul Edward J. Norton, of Asuncion, furnishes the following information concerning the receipts of the Paraguay Central Railway and the proposed extension of the line to the Parana:

The report of the board of directors of the Paraguay Central Railway for the year ended June 30, 1908, shows a favorable increase in the gross receipts in all branches of traffic, the total, reduced to American currency, amounting to $419,531, against $356,208, an increase of $63,323 over the previous year. Expenses have increased 3.83 per cent as compared with the fiscal year 1907, this being due largely to increased salaries and wages and to higher cost of fuel. The net receipts for the year under review amounted to $173,154, against $116,797 for the year 1907.

The railway statement gives both English and Paraguayan currency figures to show to what extent the rise in exchange has adversely affected the year's business. The premium on gold on July 1, 1907, was 1,070 per cent and on June 30, 1908, 1,310 per cent, the average for the year being 1,188.75 per cent, with the result that an increase of 64.66 per cent in the profit in currency only produced an increase of 45.6 per cent in sterling. The receipts are all in paper money and the tariffs have been on a paper currency basis, but as the tariffs are now being gradually put upon a gold basis the fluctuations in the gold premium will not affect the receipts to so great an extent in future.

Passenger traffic decreased about 4 per cent, but an increase in passenger receipts of $32,900 was produced by increased rates and by the abolishment of the third-class classification.

The receipts from freight amounted to $199,459, an increase on the previous year of 11.2 per cent. The volume of tonnage decreased

15.1 per cent, but increased tariffs enabled the company to show a fair gain in this branch of business. Timber and building material showed the heaviest loss in tonnage. Tobacco increased 88 per cent, and sugar also showed an increase, due to the fact that the one local refinery is working on a larger scale.

In presenting his report, Mr. Lawton, the general manager of the road at Asuncion, states that the unusually good tobacco crop, coupled with the stagnation of the timber trade, is inducing the planting of the former product on a large scale, and the handling of tobacco promises to be the most remunerative traffic the railway will have.

The survey for the extension of the railway to Villa Encarnacion, on the river Parana, was finished in June. The plans have been approved by the Government and work is now being carried forward. Rails and material have arrived and it is anticipated that the extension will be complete early in 1912.

BRITISH INDIA.

RECEIPTS AND EXPENSES OF THE BURMA RAILWAY SYSTEM.

In furnishing the following information concerning the working of the Burmese railways during the past year, Consul Ernest A. Wakefield, of Rangoon, says that the report of the directors for 1908 was very satisfactory to the company:

The capital of the company was increased by the issue of 100,000 shares of ordinary stock of £10 ($48.66) each to provide for improvements and extensions. The capital expenditure of the company during the year amounted to $1,800,000, chief items of which were $75,000 in connection with new stock issue, $440,000 double-tracking and relaying, $355,000 for building and improving stations, and $705,000 for rolling stock. The mileage in operation June 30, 1908, was 1,475, viz: Main lines of company's system, 1,340 miles; Pegu Maulmein branch, 121 miles; Henzada Kyangin branch, 14 miles.

Surveys have been made for several extensions and branches, both by the railway and the government, some of which will undoubtedly be commenced in the near future. During the year 23 locomotives, 14 passenger coaches, and 779 vans were placed on the lines, and work has begun on the new passenger station for Rangoon.

Passenger traffic increased 12½ per cent and freight 7 per cent over the previous year. The gross earnings were $5,780,000, against $5,300,000 for the previous year, and the operating expenses $3,450,000, against $3,330,000 for the year preceding. In ten years the gross earnings increased from $2,790,000 to the amount previously given, and the net earnings from $1,100,000 to $2,330,000. In the same period the mileage (main line) has increased from 936 to 1,340 and the earnings per mile from $57 to $83.

SHIPPING.

OCEAN CARRYING TRADE.

ARGENTINA.

GROWING IMPORTANCE OF BUENOS AIRES AS A TRADING PORT.

Consul-General Alban G. Snyder, of Buenos Aires, forwards notes and statistics on Argentine shipping, from which the following report is compiled:

The port of Buenos Aires in 1908 was visited by 2,003 steamships, aggregating 4,646,404 tons, and by 229 sailing vessels, aggregating 242,337 tons. This shows an increase of 359 steamships and 998,978 tons over 1907, and a decrease of 9 sailing vessels and 10,931 tons during the same time. The tonnage was divided as follows: British, 2,846,014 tons; German, 599,536; Italian, 483,780; French, 330,044; all other countries, 629,367. American shipping to Buenos Aires was represented by four small sailing vessels with an aggregate of 4,074 tons.

During 1908 new steamship lines and new boats entered the service to the Argentine Republic as follows: Pinillos, Izquierdo & Co. established a line of 3 boats, aggregating 10,515 tons, from Barcelona to Buenos Aires; the Lloyd Sabaudo put on 3 boats, aggregating 13,768 tons, between Genoa and Buenos Aires; the Italian company "Zino" has organized a line under the name Lloyd Pacifico to make the run from Genoa to Valparaiso, Chile, with stops at Montevideo on the outward trip and at Buenos Aires on the return; the French company Chargeurs Réunis has also put on 3 new boats during the year.

NEW YORK SERVICE—OLD LINES—BRITISH SHIPPING.

The Lloyd Brasileiro has put the 2 boats Acre and Goyas into special service between Argentina and New York, with stops at all Brazilian ports. Lamport & Holt established a monthly service between New York and Buenos Aires with stops at Brazilian ports. The vessels put on this route were the Voltaire, 5,500 tons; Verdi, 4,180 tons; and the Velasquez, 4,867 tons. The last-named boat was lost off the coast of Brazil in October last. This service is supposed to be regular, leaving New York on the 20th of each month and this city on the 10th.

Increased shipping has induced the old-established lines to increase their fleets to the port of Buenos Aires, the Hamburg-American line adding 4 new vessels and two Italian companies added 6 more vessels to their fleets, while the British Royal Mail placed its 8,000-ton steamer Asturias on this run.

The average number of ships under the British flag entering and clearing from Buenos Aires for the past 3 years was 1,118, belonging to 32 companies. Of these lines only the Royal Mail carries mail regularly, for which it is subsidized. The quickest trip this line makes between a British port and Buenos Aires is 20 days, including stops.

SHARE OF VARIOUS NATIONS IN ARGENTINE CARRYING TRADE.

Of French vessels 131 entered and cleared in 1907 and 122 in 1908. Vessels built in France receive certain government aid for 12 years after entering service. The French boats have made trips from Bordeaux to Buenos Aires in 20½ days, with stops at Dakar, Pernambuco, Bahia, Rio de Janeiro, and Montevideo, and from Marseille to Buenos Aires in 19 days, stopping only at Dakar. One of the French lines is making arrangements to place 3 new vessels of 14,000 tons each and 15 knots speed in the trade with South America.

About 20 to 25 Belgian ships enter and clear yearly at this port, all of them being freighters of 10 to 12 knots speed, and requiring 25 to 30 days for a trip from Antwerp to Montevideo. The Royal Belgo-Argentine Company, one of the two Belgian companies running to Buenos Aires, has this year received from the Government a 30 per cent loan of 2,000,000 francs (franc=$0.193) under condition of increasing its fleet. As a result, the company has already acquired 3 more steamships, giving it a fleet of 7 boats.

Four German companies entered and cleared 191 vessels during 1908 at Buenos Aires. Most of the German ships carry mail, for which they are subsidized. One of these lines runs the finest passenger ships that enter this port, and is being increasingly patronized.

The Dutch enter and clear about 25 vessels annually, all of them cargo boats. However, the Dutch Lloyd has under construction 2 first-class passenger vessels, with 14½ knots speed. The company receives subsidies on these vessels for a term of 15 years on condition that such advances be returned to the Government, provided the earnings of the vessels amount to a specified percentage of the capital invested.

COASTWISE SHIPPING KEEPING PACE WITH FOREIGN TRADE.

Six Italian lines of vessels visited this port during the past year and entered and cleared 200 times. Their run is from Genoa to Buenos Aires with stops at Rio de Janeiro, Santos, and Montevideo; the fastest ships making the trip in 17 days.

About 30 ships under the flag of Austria-Hungary enter and clear yearly from this port, most of them being tramps with the exception of the ships of the Austro-Americana line. This line starts from Trieste and carries the mail. The ships average about 14 knots, the scheduled trip being 27 days.

About 10 Danish ships enter and clear annually. A trip from Denmark to Buenos Aires consumes about 36 days, all vessels being cargo boats.

An average of over 50 boats under the Brazilian flag enter and clear from this port yearly, the only line running a regular service being the Lloyd Brasileiro, which receives a subsidy from the Government of Brazil of $625,000 American gold a year for the service from the Amazon River to Cuyaba by way of the Paraguay River, making 10 stops and requiring 10 days for a single trip.

The river and coastwise shipping out of Buenos Aires is also increasing rapidly under the stimulating influence of the growing trade of the port. During the past year 3 companies have put 7 new vessels into this service.

BRAZIL.

SUBSIDIES TO LOW-SPEED VESSELS—FAST NEW LINES INAUGURATED.

Consul-General George E. Anderson, of Rio de Janeiro, sends the following account of the shipping facilities European countries are providing for the trade of South America:

In the European-South American shipping service, which has been characterized of late months by an extraordinary development of service in fine, new, modern, fast ships in the English, German, and Italian lines, there is to be no lagging even in the slower vessels if subsidies will keep them going. The Austrian Government has made arrangements for a continuation of the present arrangement with the Austrian Lloyd for a triweekly service between Trieste and Santos, Brazil, the only question about the indefinite continuance of the arrangement being as to whether or not the present order will be merged into a more comprehensive one involving all the principal Austrian shipping organizations.

The continuation of the present arrangement is provided for in the agreement recently submitted to legislative approval in Austria between the Government and the Lloyd whereby the Government is to pay a subsidy of 4 kroner (81.2 cents) per sea mile on all voyages of ships of 9 sea-miles speed per hour or over, the company agreeing to make at least 9 voyages in the year, such number to be extended to 12, six of which voyages will be continued to Buenos Aires, if business justifies.

SUBSIDIES WILL AFFECT AMERICAN FLOUR TRADE.

If the earnings of the company from such service exceed the average earnings of the service given between 1902 and 1906 the subsidy will be reduced to 3.4 kroner (69.02 cents) per sea mile on all voyages. The company agrees to maintain the service during 1910 if before November of the current year an arrangement is not made by the Government with the shipping companies for a permanent subsidy for this service, the understanding being that the Government is waiting for an agreement between the Lloyd, the Austro-Americana, and the Navigazione Libera Triestina for the working of the South American service.

This granting of a subsidy by Austria for ships of no higher speed than 9 miles is not exceptional, several other nations having adopted this policy in the South American trade at least, but it is of more than ordinary significance in its bearing upon South American trade. There is not the least doubt that this Austrian line of ships, though not frequent in sailings, enables Austria to keep its flour in the markets of Brazil in competition with American and Argentine flour. It is a notable fact that Austrian flour is sold in Brazil in the districts reached only by this Austrian subsidized ship service.

DIRECT LINE BETWEEN RIO DE JANEIRO AND LISBON.

A somewhat important change in the course of the shipping service between Europe and Brazil and return is taking place in the increased number of fast ships making the voyage between Brazil and Lisbon without stop. This direct route enables the fast ships to make the trip between Rio de Janeiro and the Portugal capital in about ten days, instead of the fourteen days required with stops at Bahia, Pernambuco, and Madeira or St. Vincent. The fast new German steamers commenced this service, and now other lines are preparing to send one ship a month out of the four they send usually by the direct route. The number of fast ships sailing out of Rio de Janeiro for Europe will not interfere materially with the usual number of ships serving the other ports in Brazil, while it will give added facilities for fast trips for busy people traveling between Europe and Brazil and the Argentine Republic.

MEXICO.

NEW LINES CONNECTING WITH TEHUANTEPEC RAILWAY PORT.

Consul William W. Canada, of Veracruz, says that the report is current that the French Line, La Compagnie Générale Transatlantique, will soon inaugurate a regular freight service between France and Coatzacoalcos, Mexico, the plans being as follows:

The first steamer is to arrive at the latter place on March 8 next. The service is at first to be monthly, with two 5,000 tons vessels. Later on passenger steamers touching now at Habana and Veracruz will also make Coatzacoalcos and Progreso ports of call. The company now has two steamers in service monthly that call at Habana and Veracruz. One of these is the regular monthly passenger ship, the other is a freight vessel. In all probability there is no intention of putting on other vessels, but that these same vessels will make Coatzacoalcos a port of call, just as the German and British lines have done. It is also said the Italian Navigation Company, of Genoa, is preparing a service with Coatzacoalcos.

BARBADOS.

LARGE NUMBER OF STEAMSHIPS AND SAILING VESSELS CALL.

Consul Chester W. Martin, of Bridgetown, sends the following report on the shipping of that West Indies port:

The harbor master at Bridgetown, Barbados, reports that the expenditures of his department for 1908 were $3,632, and the revenues $18,335, leaving an excess of revenue over expenditures of $14,703.

During the year 14,965 passengers arrived, of whom 4,283 were saloon and 10,682 were steerage and deck passengers.

Under the provisions of the immigration of paupers' prevention act 225 persons were forbidden to land. Of the passengers, 2,376 were Barbadians returning from the Isthmus of Panama, whose signed declaration showed that they had brought back with them the sum of $106,401, an average of $44.78 each.

During the year 39 more vessels arrived than in 1907, the number being 1,643 of a net tonnage of 1,703,316 tons. Two were yachts, 748 steamships, and 893 sailing vessels. The regular lines of steamships were as follows: From the United Kingdom, the Royal Mail; Direct, Leyland, Harrison, Glasgow, and East Asiatic; from the United States, the Royal Mail, Quebec, Booth, Lloyd Brasiliero, Hamburg-American, and the Royal Dutch West India; from Canada, Pickford & Black; from Brazil, the Lamport & Holt, Prince, Hamburg-American, and Lloyd Brasiliero; from West Indian colonies, the Royal Mail, Quebec, Pickford & Black, East Asiatic, Direct, and Royal Dutch West India lines. The report says:

Two hundred and twenty-nine steamers took 54,153 tons of coal for bunkers, a falling off from the previous year's figures of 67 steamers and 16,378 tons of coal. This was no doubt due, in a great measure, to the depression in the trade between South America and the United States, which was so serious that one company whose ships call here laid up nearly half their fleet until conditions should improve.

TURKS ISLAND.

ADDITIONAL LINE OF STEAMERS FROM AMERICAN PORTS.

Consul J. A. Howells writes from Turks Island that a semimonthly line of steamers has been established between New York and Santo Domingo ports, and adds:

The steamers stop at this port on their way to the ports of destination, thus giving these islands two additional mails each month from the United States and Santo Domingo. Norwegian vessels are employed on the service. The first arrival from New York was on January 7. The service is known as the Dominican Line.

RUSSIA.

IMPROVED MEANS OF COMMUNICATION IN SIBERIA.

Consul James W. Ragsdale sends from St. Petersburg the following information in regard to the transportation facilities of eastern Siberia:

It is reported from Vladivostok that, in accordance with an agreement with the Russian Government, the Volunteer Fleet will extend its Far Eastern lines in 1909 by opening a new line between Vladivostok, Nikolaevsk, Petropavlovsk, the settlements on the Sea of Okhotsk and Kamtchatka to the Bering Sea. These lines are considered necessary in order to bring more life into the northwestern confines of the Pacific and uphold the beginnings of industry, said to have been injured by the free-of-customs entry of merchandise at Vladivostok (now discontinued). At present this vast region of eastern Russia is without regular communication, as private shipowners met losses, owing to the backward state of the country, and soon gave up their undertakings. This was the case with the well-known Ensign (Praporschik) Company, in which hopes were at first placed for the enlivening of local communication.

In spite of strong competition Russia's sea communication in the Far East is gradually increasing. Of late the freight and passenger traffic on the lines connecting Vladivostok with Japanese ports has been growing, but more slowly. But traffic from western Europe has already touched these lines and a more lively movement is looked for in the near future.

Western Europe is beginning to ship freight over the Siberian Railway, which formerly went via Hamburg exclusively. An increase of foreign passengers going to Japan and China via Vladivostok is also noticeable.

With a view to increasing its passenger and freight sailings, the Volunteer Fleet ordered from the shipyards at Danzig and Elbing five ocean steamers of 3,000 tons each and 16 knots speed. The new steamers will be put in service in 1909. They will maintain regular communication between Vladivostok and the ports of China and Japan, instead of the foreign steamers now used by the Volunteer Fleet, which do not meet the requirements.

JAPAN.

OSAKA SHOSEN KWAISHA'S STEAMSHIP SERVICE TO TACOMA.

Consul George H. Scidmore is informed by the Nagasaki agency of the Osaka Shosen Kwaisha (Osaka Mercantile Ship Company) that arrangements have been made in connection with the Chicago, Milwaukee and St. Paul Railroad for the opening during May next of a line of steamers to run twice a month between Hongkong and Tacoma, calling at Shanghai, Moji, Kobe, Yokohama, and Seattle. The Osaka company has now in course of construction for this service six steamships of above 6,000 tons measurement each—two at Nagasaki, one at Hiogo, and three at Kobe. Pending their completion, chartered vessels will be used on the line.

HARBORS AND PORT CHARGES.

CHINA.

CONDITION OF HARBOR AT NEWCHWANG—LIGHTERAGE FACILITIES.

Consul-General Thomas E. Heenan, of Newchwang, sends the following report on the shipping conditions and the charges against vessels at that Chinese port:

The port of Newchwang is closed by ice about November 30, and opens about March 30. During the months of May and September steamers can cross the bar drawing 18 feet; should they strike spring tide and a south wind, 18.6 feet would be a safe draft for them to enter; before May and after September, ships should not be loaded deeper than 17 feet, as these months are generally accompanied by a north wind which drives the water out of the gulf, and thus lessens the draft of water on the bar. Vessels will always find pilots in the cruising ground. Agents at the port before this should be instructed to keep the agents here well posted as to the movements of steamers, which information is passed on to the harbor master and by him to the pilot.

The depth of water alongside the wharf at low water is 17 feet. Expenses for discharging are: Stevedoring, $10 gold per 100 tons when cargo is delivered into consignee's lighters or agent's godowns; and in the event of steamers engaging tallymen their wages are $1, or 50 cents gold, per day or part of day; above this there are no extra expenses connected with discharging. The number of lighters in Newchwang amount to about 500, each with a capacity of about 30 tons. All these lighters are engaged in the loading and discharging of steamers. They are not capable of going outside the river, and to get lighters from the nearest port (Tientsin) can not always be depended upon, therefore vessels should not be loaded to a depth that will necessitate their discharge outside the bar.

DISCHARGING AT WHARF—PORT CHARGES.

Steamers on arrival are put alongside a wharf and stages supported by pontoons extend from the steamer to the shore; the cargo is then lifted by winch and deposited on pontoons from whence it is carried into the godowns. This port is closed by ice about November 30 and opens about March 30.

Tonnage dues are about 28 cents gold per registered ton for any Chinese port. Pilotage charges for sailing ships are $3.50 per foot draft and for steamers $2.80 per foot draft. For steamers going alongside or leaving wharf in harbor, extra, $10.50; for going alongside Chinese railway wharf, $3.85, and in case registered tonnage exceeds 1,500, $4.55. Agency charges are about $50 for attending each steamer or sailing vessel, entering and clearing, passing customs, and all work connected therewith while in port.

JAPAN.

SAFE HARBOR AND EXCELLENT DOCKING FACILITIES AT NAGASAKI.

Consul George H. Scidmore, of Nagasaki, has the following to say concerning the conveniences of that Japanese harbor:

The harbor of Nagasaki is one of the safest and most convenient in the Orient. It is spacious and almost landlocked and, having a mud bottom, affords excellent anchorage in depths varying from 3½ to 15 fathoms at low water, spring tides. A considerable area of land has been reclaimed by filling in at the upper end of the harbor, where landing stages on pontoons are provided for small steamers to come alongside. Nearly all cargo is handled by means of lighters. There are no piers or wharves of sufficient size to accommodate large vessels.

Stevedoring charges are 15 cents per ton, loaded or discharged. The tonnage tax is 2½ cents per registered ton. If a vessel makes use of a mooring buoy, $3.49 per diem is charged. Pilotage rates are 20 yen ($9.96) plus 3 per cent per foot draft over 12 feet and 3 per cent per 1,000 tons over 1,000 tons.

The Mitsu Bishi dock yard and engine works possess one of the largest and most completely equipped shipbuilding and docking outfits in the Orient. Their three graving docks have lengths, respectively, of 371, 523, and 722 feet. The depth of water on blocks at spring tides of the largest of these docks is 34½ feet.

[A list of docking charges is on file in the Bureau of Manufactures; also the most recent regulations for the harbor of Nagasaki.]

GERMANY.

COMMERCIAL IMPORTANCE OF FRANKFORT'S NEW HARBOR.

In reporting that the importance of water transportation is well recognized in Germany, and large sums are expended for improving the waterways of the country, the building of canals, the establishment of harbor facilities, etc., Consul-General Richard Guenther describes the improvements at Frankfort-on-the-Main:

The new east harbor of Frankfort, now in progress of construction, will become of great economical and commercial importance to this city. Its cost will be 48,000,000 marks or nearly $11,500,000, and the land bought for industrial purposes by the city brings the total to 72,000,000 marks or about $17,000,000. The harbor area comprises 290 hectares or 716.59 acres, with a river frontage of 3½ kilometers (2.2 miles).

Of the 290 hectares of land belonging to the harbor, 258 will be set aside for building purposes; two asphalt factories, two flouring mills, and one brewery have already been determined upon. The city has already sold about $1,000,000 worth of these lands.

Frankfort was formerly only a harbor of the river Main, but through the canalization of this river it has virtually become a Rhine harbor. Up to 1887 the river Main was not navigable near its mouth at Mainz; then a canal was constructed. To-day Rhine vessels up to 1,500 tons capacity can proceed to Frankfort. The tonnage traffic at Frankfort increased from 150,000 tons in 1887 to 1,600,000 tons in 1906. Among the 53 Rhine harbors Frankfort now occupies the fifth place in tonnage. The chief articles shipped by water to Frankfort are coal from the Ruhr district (45 per cent), gravel (15 per cent), and cereals (12 per cent).

DOMINICAN REPUBLIC.

TONNAGE PAID ONLY ON GOODS TAKEN TO OR FROM PORT.

Minister and Consul-General Fenton R. McCreery, of Santo Domingo, forwards the following report concerning the regulations for that, the chief port of the Dominican Republic:

Vessels of less than 15-feet draft enter the river and draw alongside the wharves; larger vessels lie in the open roadstead and are discharged by lighters. There are practically no coaling facilities at this port.

Wages in the harbor of Santo Domingo for native laborers vary as follows: Per day on vessel in river, $1 gold; on the wharf, 80 cents; on vessels at sea, without meals $1.50, with meals $1.25; for watching cargo in lighters or on wharf at night, $1; for work on holidays, $2 per day or night. Only licensed sailors may work on the wharf, lighters, and vessels. The tonnage dues for steam and sailing vessels are 50 cents per ton of cargo brought to the port and 50 cents per ton of cargo taken from the port. Pilotage must be paid both on entering and clearing whether or not a pilot is employed. The charges are 1 cent per registered ton for sailing vessels and one-half cent per registered ton for steamers. Charges for interpreter, for signal service, and for sanitary service are $2 each.

[A detailed list of charges for lightering merchandise, together with the text of the law declaring the regulations and charges of the port, are on file in the Bureau of Manufactures.]

CAPE OF GOOD HOPE.

PILOTAGE, STEVEDORING, AND ANCHORAGE AT PORT ELIZABETH.

Consul R. B. Mosher, of Port Elizabeth, transmits the following report on the regulations and charges obtaining at that South African port:

There are no port dues at Port Elizabeth. Pilotage is not compulsory, but if sailing vessels engage pilots beyond 3 miles the charge is $3 per 100 tons gross register, with a minimum of $26.75; within 3 miles, a minimum of $13.40; steamers, $26.75. Agency charges vary. Stevedoring for timber, per standard of 165 cubic feet, $1.20; done by private firms. Depth of water in usual anchorage, 7 to 10 fathoms. Vessels of 21 feet draft can be taken alongside the jetty if they do not exceed certain displacement. Lighterage is incurred with vessels in the anchorage.

GEORGIAN BAY CANAL.

OFFICIAL REPORT ON CANADA'S PROPOSED NEW WATERWAY.

Consular Agent James J. McBride, of Arnprior, Ontario, has prepared the following summary of the advance interim report of the Canadian Georgian Bay Canal Survey, concerning which previous consular reports have been published:

The project is a ship canal, with a minimum depth of 22 feet, of sufficient width to accommodate boats of the large lake size (600 by 60 by 20 feet draft), connecting Lake Huron with the St. Lawrence River at Montreal, by the way of the Georgian Bay, the French and Pickerel rivers, Lake Nipissing, and the Ottawa River, a distance of 440 miles. From a point about 30 miles above Montreal two routes have been considered. One, utilizing a broadening of the St. Lawrence known as Lake St. Louis, would require 5 miles of canal and give entrance at the upper end of the harbor; while, by the second, the canal follows a branch of the Ottawa River, called Riviere des Prairies, which would necessitate 11 miles of canal and would give entrance to Montreal at the lower end of the harbor.

Of the 440 miles only 108 will require excavation work, leaving 332 miles of natural channel. Of the 108 miles upon which work will have to be done 66 miles will be submerged channels, about 14 miles of obstructions, such as shoals, sharp bends, etc., and 28 miles of canal cuts from 200 to 300 feet wide. The excavation work according to the kind of material is as follows:

Dry—	
Rock, about	25
Earth, about	13
Mixed earth and rock, about	20
Wet—	
Rock, about	18
Earth, about	16
Mixed earth and rock, about	16
Total miles	108

SUMMIT LEVELS AND STORAGE.

The summit of the canal will be 659 feet above Montreal, and 99 feet above Georgian Bay. This will be overcome by 27 locks (26 if the Riviere des Prairies route is decided upon) with lifts of from 5 to 50 feet. The summit level embraces Lake Talon, the Little Mattawan River, Turtle and Trout lakes. These waters will have their present level raised to 677 feet, a rise in Lake Talon of 41 feet, and 15 feet in Turtle and Trout lakes. This will be accomplished by locks at both ends of the summit level, which are also intended to permit the lake thus created to be lowered to 671 feet without interfering with navigation. This lake will serve to store part of the excess in flood times and supply the deficiency during times of shortage of water. It is estimated that the storage thus provided will amount to 540 cubic feet per second during the season of navigation, permitting 24 passages per day, or 5,040 per season, which would be about two hundred and ten days, nearly coinciding with that of Montreal. This supply can be increased by 700 cubic feet per second by creating a storage reserve at the head of the Amable du Fond River, and diverting it from its present course into the summit lake.

The estimates in the present report are based on concrete locks 650 by 65 feet, with a depth of water on the sills of 22 feet. The 65 dams required by the project are to be of the rock-fill type where the water supply is ample for canal purposes, while where it is necessary to economize the water concrete dams have been designed.

BENEFITS AND COST.

It is calculated that, making an allowance of three-fourths of an hour for the delay in passing each lock, the time between Montreal and Georgian Bay would be about seventy hours. This would mean a saving of from one to one and a half days over the present route via the Lakes, but this advantage might be overcome by the possible improvements in the St. Lawrence system. The saving in distance from Lake Superior ports to Montreal via the canal would be 282 miles, while to London the distance would be 806 miles shorter than the route via the Great Lakes and New York.

In addition to the benefits of the canal as a transportation route will be the water power developed. The falls will be concentrated for the purpose of lockage and small rapids obliterated. In this way nearly 1,000,000 horsepower can be developed, whereas under the present conditions it is doubtful if more than 150,000 at the minimum flow is available.

The time required to complete the work is estimated to be about ten years, which would involve an expenditure of about $10,000,000 per year. The following is an estimate of the cost of each of the routes, including damages to lands inundated by the project:

To Montreal via Lake St. Louis, etc.:	
Locks, dams, channels, piers, lighting, damages	$88,626,108
Contingencies, engineering, administration, say 10 per cent	8,862,892
Storage of flood waters, regulation basins, etc	2,200,000
	99,689,000
Feeder at summit, when required	900,000
To Montreal via Riviere des Prairies:	
Locks, dams, channels, piers, lighting, damages	83,354,508
Contingencies, engineering, administration, say 10 per cent	8,335,492
Storage of flood waters, regulation basins, etc	2,200,000
	93,890,000
Feeder at summit, when required	900,000

HONGKONG CARGO MEASUREMENT.

OFFICIAL APPOINTED BY SHIPPING LINES TO VERIFY SHIPMENTS.

Concerning the recent establishment of a sworn measurer at the port of Hongkong, which is of interest to American business men using the Suez route for the transportation of goods, Vice-Consul-General Stuart J. Fuller writes:

This office has been instituted by the Suez Conference, which includes practically all the European lines and the New York lines operating via the Suez Canal. No cargo is accepted by any of these companies unless it has been measured and the measurements certified to by this measurer or one of his deputies. This furnishes the lines in question with protection against imposition on the part of shippers, as well as insuring that no member of the conference is cutting rates by means of short measurement. It is especially important in connection with cargo shipped down from Canton and transferred direct, without landing, to the outgoing steamer.

The establishment of a like arrangement by the Pacific lines was mooted some time ago, but the idea was not taken up for the reason that the weights and measurements on shipments via the Pacific are subject to correction by the railway companies in the United States.

ANTWERP'S SHIPPING INTERESTS.

EFFICIENT WORK BY THE CHAMBER OF COMMERCE.

Consul-General Henry W. Diederich, of Antwerp, writes that at the close of 1908 the Antwerp Chamber of Commerce numbered 1,214 members and 34 sections, each section being interested in a particular phase of work which concerns the commercial welfare of the port. Of the work of the chamber and the shipping of that Belgian port he says:

The Antwerp Chamber of Commerce was instrumental in inducing both chambers of the Belgian Parliament to vote the new maritime law and the new law of maritime mortgages. Again, in order to expedite judicial proceedings, it prevailed upon the Government to create a second court of the Antwerp Tribunal of Commerce.

The chamber induced the Government to enter into negotiation with the Dutch Government for the better lighting of the River Scheldt, to enable large ships to navigate the river at night. It also persuaded the city authorities to install the 50-ton electric crane at the south quays, which has greatly facilitated the manipulation of cargoes. A commission has been appointed, composed of delegates from the Government, from the city, and the chamber of commerce, to provide ways and means for assuring the safety of merchandise lying in the port. Acting upon the advice of the chamber of commerce, the Belgian Government has decided to allow the payment of duties upon the lumber destroyed by the great fire of 1907 until the passing of the proposed law providing for the exemption of this lumber. A commission has been appointed in the chamber to prepare a bill for the unification of the diamond carat at 200 milligrams.

The chamber also has the following lines of work under consideration: Increase of the export trade; an official load line for steamers; the development of Belgian canals; providing the harbor with floating grain elevators, preparing a bill for the adjustment of liquor licenses, etc. The work accomplished and the work in view is of such a nature as to have great influence upon the municipal, provincial, and general governments. The Antwerp Chamber of Commerce, composed as it is of the leading representatives of all branches of commerce, is the most influential semiofficial or private body of this country.

SHIPPING OF THE PORT.

The total tonnage entered at the port of Antwerp during 1908 was 11,054,269 tons, as against 11,181,226 tons in 1907, showing a decrease of 126,957 tons, due to the trade conditions of the past twelve months.

However, as compared with other ports which have suffered from the depression, Antwerp has held its own in spite of the unfortunate strike of dock laborers which immediately preceded the financial crisis in 1907. The following will show the total tonnage entering this port during the past six years: 1903, 9,064,662; 1904, 9,385,267; 1905, 9,900,305; 1906, 10,884,412; 1907, 11,181,226; 1908, 11,054,269.

During 1907 and 1908 the port of Antwerp was visited by 6,284 and 6,135 vessels, respectively; during the same time the port of Rotterdam was visited by 9,873 and 8,811 vessels, respectively, with a total tonnage of 10,547,246 and 9,469,153 tons, respectively, while Hamburg was visited by 16,473 and 16,830 vessels, respectively, with a total tonnage of 12,040,000 and 11,914,000 tons, respectively.

JAPANESE SHIPBUILDING.

TRADE DEPRESSION SERIOUSLY AFFECTS THE INDUSTRY AT NAGASAKI.

Consul George H. Scidmore, of Nagasaki, submits the following report on shipbuilding in the yards of that Japanese city:

During the year 1908, the following-named vessels were completed and delivered to their owners by the Mitsu Bishi Dockyard and Engine Works, at Nagasaki: (Those marked * have Parsons's turbine engines.)

Name.	Description.	Tonnage.	Indicated horse-power.	For whom built.
Tenyo-Maru *	Triple-screw passenger steamer	13,454	20,227	Toyo Kisen Kaisha.
Chiyo-Maru *	do	13,426	19,982	Do.
Mogami *	Dispatch boat	1,350	8,000	Japanese navy.
Sakura-Maru *	Triple-screw volunteer steamer	3,204	9,148	Volunteer Fleet Association.
Kamo-Maru	Twin-screw passenger steamer	8,523	7,582	Nippon Yusen Kaisha.
Hirano-Maru	do	8,520	8,144	Do.
Total		48,477	73,083	

On December 31, 1908, the company had on its stocks the following-named vessels:

Name.	Description.	Tonnage.	Indicated horse-power.	For whom building.
Atsuta-Maru	Twin-screw passenger steamer	8,523	7,600	Nippon Yusen Kaisha.
Kitano-Maru	do	8,523	7,600	Do.
Yard No. 200	Passenger steamer	6,000	3,900	Osaka Shosen Kaisha.
Yard No. 201	do	6,000	3,900	Do.
Yard No. 202	do	6,000	3,900	Do.
Yard No. 203 *	Triple-screw passenger steamer	13,700	15,650	Toyo Kisen Kaisha.
Yard No. 204	Single-screw oil steamer	9,250	3,500	Do.
Yard No. 206 *	Triple-screw volunteer steamer	3,204	9,148	Volunteer Fleet Association.
Total		61,200	55,198	

Owing to the unusual depression in the shipping business scarcely any new orders have been placed with the company during the past year, and its immediate future prospects are discouraging. About 7,000 hands are employed in the yard, and reductions in their number are being made.

MOTORS AND VEHICLES.

FOREIGN MARKETS.

TURKEY.

OUTLOOK IN CONSTANTINOPLE—CUSTOMS DUTIES AND TAXES.

Vice-Consul-General Oscar S. Heizer furnishes the following information concerning the use of automobiles in Constantinople:

Formerly there were many obstacles to the importation of automobiles into Turkey. Recently their admittance was authorized, but it was thought that automobilists were unfavorably looked upon in high circles and, consequently, the rich Turks, who were expected to buy automobiles, abstained from making purchases. With the new régime has come entire liberty, but nevertheless they have not bought automobiles. In fact, two years of short harvest has made hard times, the recent events have given anxiety, and subscriptions and patriotic holidays have made large demands upon everyone.

The following automobiles have been in Constantinople a month or more: A French machine, driven about the streets by the agent of the firm for advertising purposes. Two other automobiles of French manufacture are also driven about the streets for the same purpose. A high Ottoman official, who recently arrived from Egypt, brought with him an English machine which he uses considerably. There are also two Italian automobiles, an Austrian, and a German tricar. Finally there are several Hotchkiss armor-protected automobiles imported from France, which the military authorities are trying.

OUTLOOK FOR AUTOS AND AUTOBUSES.

A native Constantinople merchant has recently ordered automobiles from France and England, some of which are already running. There will be 13 in all. It is reported that he has sold a French machine to a son of the Sultan for $4,866, and has 2 machines left in the custom-house; that is to say, not being able to come to an understanding regarding the valuation of these automobiles, the custom-house has paid the total amount at which they were appraised, after deducting the duty, and has retained the machines. One of these automobiles, a Belgian make, has been taken over by the customs administration for $990, and another machine, name not known, for $396. This last one was immediately bought by a native on account of the low price.

The other automobiles will be stationed near the Sixth Municipal circle, above the gate of which wave the colors of the constitution. At the present time there are 3 machines there, and an English engineer is attached to the station.

Besides these automobiles, the above-mentioned merchant says that he will receive 8 autobuses, 4 of which will be used in a regular service between the head of the bridge at Stamboul and Eyoub and the others from Scutari to a point in the suburbs. In winter these services will be very difficult. This merchant also expects to import about 20 light automobiles, and if he does not succeed in selling them in the spring he will place them with coachmen for hire in the city.

The winter season, which has already begun, makes the running of automobiles very difficult and very little business along this line can be done before spring. The bad state of the roads forbids speed. However, there is a chance to sell these automobiles. When the rich natives come to consider automobiles as the exterior sign of wealth many will want to have them for parading in the streets of the capital and suburbs.

The fact that second-hand automobiles can be sold on advantageous terms will no doubt procure some buyers, and perhaps when rich native people possess automobiles they will build roads so that they may be able to use them.

AUTOMOBILE REGULATIONS.

There are no regulations whatever preventing the entrance and circulation of automobiles in Turkey. The automobiles pay 11 per cent duty ad valorem, the same as every other article of merchandise. If the customs officials place an excessive valuation upon the machines they may be turned over to the custom-house and it will be obliged to take over the machines at the appraised value, less 10 per cent duty. Recently a Belgian machine appraised at $3,474 was reduced to $987, the custom-house not wishing to buy it. Nevertheless the custom-house took it at that price, not wishing to reduce its appraisement further, although the automobile was second hand.

As yet there are no taxes levied upon automobiles by the Turkish authorities. An automobile passing through Turkey must pay duty on entrance, which is refunded on leaving the country.

There are firms here who would take up the business if an inexpensive type could be put on the market. But unless the American manufacturer is willing to send a representative to look over the ground, and establish an agency, and place a machine on exhibition, there is little chance of doing any business, because the agents here will not pay cash in advance, while European manufacturers offer more liberal terms. [The addresses of Constantinople business houses who might act as agents for the sale of American automobiles are on file in the Bureau of Manufactures.]

UNITED KINGDOM.

AMERICAN AUTOMOBILES IN EDINBURGH MOTOR SHOW.

Consul Rufus Fleming, of Edinburgh, gives the following account of the annual motor car show held during the month of January in the Scottish capital:

The only exhibition of motor cars in the United Kingdom outside of London is held in Edinburgh early in each year under the auspices of the Scottish Motor Trade Associations (limited). Efforts have been made by the authorities of the Society of Motor Manufacturers and Traders of Great Britain to bring all important firms in this industry into the annual Olympia show at London and to eliminate the Edinburgh show; but the Scottish Motor Trade Association, having seen the beneficial effect of the exhibition upon the motor-car trade here, has persistently opposed the one-show proposition. Every year a marked advance has been noticed in the number and quality of exhibits at Edinburgh. At the exhibition held January 22 to 30, this year, 76 firms (manufacturers, body makers, dealers, and marine-motor concerns) were represented, 20 large firms having been excluded in the ballot because there was no space for them. Among the exhibits were five makes of American cars.

A noteworthy feature of the show was the fine body work both in the limousine and landaulette type and in the open touring cars, the lines of design having more curves than formerly, which not only give an ornate effect, but also enable the builder to increase the inside accommodation by swelling the body of the car over the mud guards without any increase in the extreme width of the car. Perhaps the most important feature of the exhibition was the varied assortment of small cars at prices between $600 and $1,250. Two American types shown attracted much attention. I am informed by a Scottish expert in the motor-car trade that there is this year a widespread revival of interest in small, efficient, and economical cars of simple construction. The sales of this style of car are likely to be large, according to the judgment of this dealer. Many exhibitors at the Edinburgh show report highly satisfactory results in the sales of cars of various types and prices.

VEHICLES IN LONDON.

MOTOR CABS POPULAR IN PASSENGER TRIFFIC.

Consul-General Robert J. Wynne reports that the remarkable growth in the use of motor vehicles in London is shown by the following figures published in the current number of Motor Traction:

Year.	Cabs.		Omnibuses.	
	Animal.	Motor.	Animal.	Motor.
1903	11,404	1	3,623	13
1904	11,057	2	3,551	31
1905	10,931	19	3,484	241
1906	10,492	96	2,964	783
1907	9,818	723	2,557	1,205
1908	8,475	2,805	2,155	1,133

At the beginning of 1907, however, signs were not wanting to show that the rapid diminution of horse cabs was beginning to lessen, for they only showed a decrease of 674, while the increase in motor cabs amounted to 627—in fact the two very nearly balanced each other. Now, at the end of 1908, we find an increase of 2,082 motor cabs, but only a decrease of 1,343 horse cabs, leaving 739 more vehicles to crowd the streets than there were last year.

NEW AUTOMOBILE STARTER.

INVENTION THAT WILL APPEAL TO ALL MOTOR-CAR DRIVERS.

Consul Frederick I. Bright, of Huddersfield, submits the following description of a new British invention to facilitate the starting of automobile engines by doing away with the present necessity of leaving the driving seat:

The advantages claimed for the invention are that it renders the starting of the engine an easy task compared with the ordinary starting handle and makes injury from backfire an impossibility. The apparatus consists of a toothed wheel firmly fixed to the fly wheel of the engine or any other convenient revolving part between the fly wheel and the gear box. Around this toothed wheel is a traveling pulley in which is a latch to engage in the teeth of the wheel. There is an arrangement to throw the latch in and out of engagement. The invention is worked by means of ropes which pull round the traveling pulley. [The address of the inventor is filed with the Bureau of Manufactures.]

PORTUGAL.

RAPIDLY EXPANDING MARKET—HILLY COUNTRY DEMANDS CLIMBERS.

Vice-Consul-General Charles F. La Serre, of Lisbon, has the following to say about the introduction of American automobiles in Portugal:

There are in Portugal about 1,200 automobiles. Nearly 600 of these are registered at the Governo Civil of Lisbon. Lisbon is a city of over 400,000 inhabitants and of considerable wealth. The automobile business is growing rapidly, and if the American manufacturer intends to make a bid for the business, now is the time to do it.

There is only one American automobile in Lisbon; this is a runabout and is in the hands of an agent newly established. One reason why there are no more American cars here is that American concerns have not displayed any energy in demonstrating their machines in this market. Again, the dealers hesitate to try cars of American make because an automobile was imported three or four years ago that did not meet with the requirements demanded here. Lisbon is very hilly and cars that are used here must be climbers. The lowest horsepower required is 15–20. There are no electric cars or cars of the steamer type in use in Lisbon. It is the experience of the dealers that they are not suitable for hilly country, and the recharging of electric motors is very expensive.

There are some German and English automobiles sold here, but the favorites are the French and Italian makes, the French being the most popular. The style of car mostly used is the double phaeton or touring car. They vary in price from $1,800 to $5,000. The import duty is comparatively low.

DUTY, ROADS, SHIPPING FACILITIES, ADVERTISING, ETC.

According to a recent government report there are in Portugal 8,920 miles of macadamized roads and 2,461 miles in construction. The speed limit in the city is 10 kilometers (kilometer = 0.62137 mile) per hour, and on country roads 15 kilometers per hour.

There is no regular direct steamship line between New York and Lisbon, but there is one company that sends an average of one cargo steamer per month from New York to this port and vice versa.

The language used in commercial life is Portuguese, but a great deal of French is also spoken here, and some English. Catalogues should be printed in Portuguese or French, but no business can be done by catalogues and correspondence alone. Properly qualified agents must bring cars and thoroughly demonstrate their superior value.

Weights and measures should be in the metric system and prices in the currency of the country (present exchange makes 1 milreis, paper or silver, equal to about $0.879). Prices can also be given in French or British currency and should always be quoted c.i.f. Lisbon.

The majority of local dealers own garages and some of them well-equipped repair shops. One firm imports the chassis and manufactures the body of the car.

ASIATIC TURKEY.

FIELD IS READY FOR INTRODUCTION OF AMERICAN AUTOMOBILES.

Consul Jesse B. Jackson, of Aleppo, invites the attention of manufacturers of motor cars to the opportunity of developing a lucrative business in that portion of Syria. Following is his report:

There are but two automobiles owned and operated within this province, one of 40 and the other of 12 horsepower. Perhaps the most important reason for this is that the people here have not yet realized the advantages of their use, but when they do they will be in demand by nearly every man that can afford the price of a machine. It is safe to predict that at no far distant day automobiles will be quite common in these parts, and that the time is now ripe for making an extra effort to introduce American-made machines before the appearance of the European cars, for, once on the market, they will be difficult to dislodge.

The most practical manner in which to accomplish this would be for some enterprising firm to send here at an early date two or three machines of different sizes, and a representative to demonstrate them, as it is very difficult to succeed in such a business in Turkey by the mere use of illustrated and descriptive catalogues. Should such an attempt be made in all of the larger cities and towns, it is certain to meet with success. For instance, should such a man come here and select a reliable importer, certain ones of whom can always interest people, make his demonstration and appoint the proper resident representative, sales could probably be made on the spot, and soon a lucrative business would be established in each populous center. This consulate has frequent inquiries concerning American products of various kinds, but when it comes to the question of purchasing they first want to see the goods, or a sample thereof.

GOOD, LOW-PRICED MACHINE IS NEEDED.

It would also seem to be most practicable for automobile dealers to give more attention to the sale of small, light machines of 10 to 20 horsepower, which are cheaper than the heavy, high-speed motors, as they are more applicable to the country, and will sell more readily than the higher-priced machines. Further, the mechanism is less complicated and more easily adjusted by the native mechanics when out of order. The difference in the consumption of gasoline, which is an expensive article in this country, is also an important item to be reckoned with. The small, good, hill-climbing machine, of about 12 horsepower, designed for town and suburban use, with a sufficiently strong frame to carry a coupé or small landaulet body, and carrying from three to five persons, should prove attractive and find a ready market. Also, the light touring car for five to seven persons, with about 20 horsepower. The large touring car is too heavy for this country, the tires cutting out quickly on the stone roads. Motors with a speed of from 20 to 30 miles an hour are sufficiently strong to satisfy the people of this vicinity for several years to come.

In the absence of railways and tramways practically all traveling is done by carriage in the country districts, as well as in the cities. Scores of rich proprietors living in the cities are compelled to employ this tedious mode of travel between their homes and their adjacent villages and landed estates. Many of them could be persuaded that an automobile would be convenient and economical. Something like 500 carriages, all very ordinary and usually drawn by the "broncho," are employed in the city of Aleppo alone, and the man who starts an automobile carriage service ought to reap a rich reward.

There are no automobile dealers within the district, and those most likely to be interested are the importers and commission houses, to whom correspondence and literature in French should be sent.

BRITISH INDIA.

LONG-DISTANCE MOTORIST EXPLORING AND MAPPING ROUTES IN INDIA.

Consul-General William H. Michael, of Calcutta, sends the following report on long-distance motoring in India:

The practicability of long-distance motoring in India with an ordinary car is being demonstrated by J. A. Taylor, who recently arrived in Calcutta by motor from Peshawar. In his trip from this city to Bombay he is using the same car which carried him over the long route from the extreme northern part of India to this city without a hitch. It is an 18–25-horsepower car, ordinary standard model, and he will take 30 gallons of petrol along, which will last until Allahabad is reached, where the supply of oil will be renewed. His itinerary will take in several cities between Calcutta and Bombay where petrol is obtainable. The car will carry three people with the ordinary amount of baggage. It is fitted with plain-tread Dunlop tires on the front wheels and grooved Dunlops on the hind wheels. Two spare covers and five tubes will be carried. It is worthy of note that the car starts from Calcutta with the same tires which were used on the trip from Calcutta to Peshawar and return, and to the casual observer appear almost as good as new tires.

INFORMATION TO MOTORISTS—MARKET FOR AMERICAN CARS.

Mr. Taylor purposes making a careful map of his trip, with full notes for the use of any others who care to travel over the same route. The old Grand Trunk road used by the Government and by the public before the railways were introduced will be followed, and side roads leading to interesting cities and towns will be explored. His map and notes will be of utmost value to motorists, who are now practically in the dark as to what a journey of this kind involves. If this trip proves the practicability of the roads across India from east to west, large numbers of motorists will be attracted to India for the purpose of seeing the country by automobile. His first day's journey is to Dumka, where there is a dak bungalow, or rest house, and thence by as easy stages as possible to Bombay.

The car being used in these trips is not an American-made machine, which is to be regretted. With all the information which has been given to American automobile builders relative to the opportunities of developing a good trade in this country, it seems strange that long-distance motoring in India has not been undertaken by some enterprising American manufacturer. Such trips, successfully made, would be an excellent advertisement for an American automobile.

BURMA.

AMERICAN MACHINES ARE NOT REPRESENTED.

In stating that there are nearly 150 motor cars in Rangoon and probably 50 more at other places in Burma, Consul E. A. Wakefield gives the following trade particulars:

These cars are, with a few exceptions, made in England, selling at prices varying from $500 to $4,000. One French car cost $6,000. A few years ago an American 1-cylinder car was sold in India, which gave very poor satisfaction. To-day there are no American cars sold in the province of Burma and to successfully reintroduce them it would undoubtedly be necessary to practically demonstrate their serviceability and durability in a most thorough manner.

It is very questionable if American manufacturers could sell a car here without having the machine on the spot to be thoroughly tested. One car in successful operation would be worth more here than all the correspondence and advertising matter they could send. The roads in and near Rangoon are excellent for motoring, so that the number of cars in use is steadily increasing. This is true of Mandalay, Moulmein, and Bassein to a more limited extent.

If an American manufacturer could secure a Rangoon firm of unquestioned reliability to act as his Burma agent it should be easy to secure a foothold which would lead to a continually increasing business. [A number of Rangoon firms which might represent motor-machine builders are listed at the Bureau of Manufactures.]

BOMBAY.

AUTOMOBILING POPULAR WITH NATIVES—GOOD MACHINES IN DEMAND.

Consul E. Haldeman Dennison, of Bombay, makes the following suggestions relative to the introduction of American motor cars into India:

The American motor car is little known in India and still has to prove itself the equal of the Continental makes used in India. There are now 1,000 motor cars registered in Bombay, and not one of these is of American make, with the exception of a few "cripples," the remains of a lot of cheap runabouts which were dumped on this market some years ago and which proved so unsatisfactory that the trade in machines from the United States was killed.

This market is well worth the best efforts of American manufacturers and exporters. Among the well-to-do natives the motor car has become popular, and the Continental manufacturers have been reaping a rich harvest from the ever-expanding trade. The native as a rule is unfamiliar with machinery and desires a car that is going to give him the least trouble possible. He is quite willing to pay a good price for a superior machine, and American exporters would do well, when they really determine to exploit this market, to introduce only their best machines.

There is only one road in India that approaches the standard of those in Europe and that is the "trunk line" between Bombay and Calcutta. This would seem to give the American car some advantage, as it is built to negotiate even the roughest sort of roads.

Until American manufacturers are ready to expend considerable time and money in developing their trade they might as well not attempt to enter this market, as the writing of letters and sending of catalogues is a waste of time.

[Addresses of Bombay motor dealers are on file in the Bureau of Manufactures.]

JAPAN.

CONDITIONS NOT FAVORABLE FOR THE USE OF AUTOMOBILES.

Consul John H. Snodgrass, of Kobe, describes conditions in Japan which prevent that country from becoming a good market for motor cars. He says:

Japan is unsuited for automobiles and carriages because of the narrowness of the city streets and the country roads, where the average track is only 33 inches wide for jinrikishas; also because the driveways are limited to the cities, where the streets are continually filled with pedestrians and playing children, making it a hazardous undertaking or attempt driving a car through those sections. Besides, the Japanese do not take to automobiles.

Some four years ago a large American automobile company sent over 10 cars for initiation at Osaka, they being introduced for the purpose of taking the place of jinrikishas and competing with an electric street car line. This innovation in transportation did not appeal to the Japanese, though the tariff of fares was quite reasonable, and the venture ended in disaster to the investors, as they were not only poorly patronized, but the jinrikisha boys, fearing that their business would be destroyed, offered effective opposition to the innovation. A number of college boys belonging to wealthy families residing in Tokyo have from time to time brought back with them from America high-class automobiles, but their use has been restricted to the limited districts of the capital city.

CHEAP MODES OF TRAVEL.

It was thought that with the introduction of other foreign ideas the automobile trade would expand throughout the Empire, but such has not been the case, as the utility of the machine does not appeal to the Japanese. The use of the jinrikisha has so long been in vogue, and traveling on tramways and railroads is so reasonable, that even though the roadways permitted and the streets were not burdened with a ceaseless throng of human traffic there would be little probability of the wealthier class familiarizing themselves with the benefits derived from the use of motor cars.

It is quite true that the purchasing power in Japan is greater than formerly, that the people are adapting themselves to modern methods and are accepting the inventions of the Western World with alacrity, nevertheless, the urban districts are so circumscribed and the country roads merely footpaths through the hills and valleys, that until there is a complete change in the construction of roadways and the widening of city streets automobiles in Japan will be limited to a few enthusiasts of foreign proclivities. Furthermore, the tariff duty of 50 per cent is almost prohibitive.

CHINA.

A CITY WITHOUT AN AUTOMOBILE—CHEAP CARS MAY BE SOLD.

Consul Roger S. Greene, of Dalny, believes that a motor-car business may be worked up in that part of Manchuria. He says:

This city and district are still comparatively new and there are few persons here who could afford to keep even a medium-priced motor car. There is, however, ample interest in everything new, and it might be possible to sell a small number of cheap cars, provided they are strongly built. As there is not a single automobile in the city, business is all in the future and must be worked up. Most of the roads in the city are now in good condition, having been newly macadamized. Outside of the city limits the roads are not suitable for motoring.

The principal machinery dealers here are railway and government supply contractors, there being as yet little outside business in machinery. These firms have head offices in Japan and branch houses in New York, through whom business relations in this locality might be advantageously formed. Commercial relations once established with these firms would be useful in other lines and in other localities, as their business extends over a wide field in Japan, Korea, and China.

[Addresses of firms referred to and of possible Dalny purchasers are on file in the Bureau of Manufactures.]

STRAITS SETTLEMENTS.

SPOKELESS, PUNCTURE-PROOF, NONJOLTING MOTOR WHEELS.

Consul-General Thornwell Haynes, of Singapore, reports that Mr. L. A. Van Rijm, of the Netherlands Gutta Percha Company, of that city, has invented, and obtained patents for in the principal European countries, a new wheel for motors or other fast vehicles. Mr. Haynes' account of the invention follows:

The central idea of the motor-car wheel invented by Mr. Van Rijm, of Singapore, is to have a wheel in the form of a solid disk, manufactured in one entire piece, and wholly of rubber. Rubber which is soft enough to give an easy, pneumaticlike tread would be unsuitable for the body of the wheel. This is obviated by having a hub vulcanized until it rings to the hammer almost like a piece of iron, and this hardness is gradually diminished from the center outward until 3 to 4 inches from the wearing surface, where it becomes so soft that it yields to a gentle pressure of the fingers. It is much softer than the rubber of an ordinary solid tire, because the latter must be hard enough to keep its place in a rim when subjected to the strain of side pull or slip. The all-rubber wheel has no rims, and therefore can be made as soft as desired.

A pair of these all-rubber wheels has been fitted to a heavy car and used freely all over the island of Singapore for some weeks. It is said to be impossible to distinguish the motion from that of high-grade pneumatic tires. With such wheels it is impossible to get even a sharp jolt which a sudden descent on the metal rims occasionally produces over humpy roads.

The wheels seems less a dust raiser, and has none of that suction which makes the pneumatic the despair of road surveyors. Its great advantage is that it is unbreakable, and there can be no punctures. There are no spokes to snap or shake loose. Should the running surface become worn it can easily be restored by vulcanization in the ordinary manner. Any nonskidding device may be attached to the wheel if desired.

JAVA.

AMERICAN CAR HAS LARGE SALE IN ISLAND OF JAVA.

Consul B. S. Rairden, of Batavia, replying to an inquiry from an American manufacturer, has the following to say about the sale of automobiles in Java:

Within the last two years sales of motor cars have rapidly increased in Batavia and adjacent districts of the Javanese capital. The importations of automobiles in 1905 amounted to $48,000, and in 1907 to $360,000. The agent for an American car company reports that he sold over 100 cars in twenty months. The machine he handles is a small one, selling for about $2,000. [The addresses of Batavia automobile dealers are on file in the Bureau of Manufactures.]

AFGHANISTAN.

IMPROVEMENT OF ROADS TO PERMIT THE USE OF MOTORS.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the proposed establishment of a motor postal service in Afghanistan:

It was reported some months ago that the Amir of Afghanistan intended to improve the roads en route from the Khyber to Kabul, in order to permit the use of motors. Orders have just been issued that the section from Dhakka to Jellalabad is to be taken in hand at once. The idea seems to be to establish a motor postal service to and from Kabul, but progress is likely to be slow in this matter, as heavy expenditure will be required on the hill section between Gandamak and Buthak.

SIAM.

AUTOMOBILES AND MOTOR BOATS ARE POPULAR IN BANGKOK.

Minister Hamilton King, of Bangkok, sends a newspaper clipping relating to motoring in Siam, from which the following extract is taken:

Siam offers one of the most promising fields for the development of a motor trade. There has recently been a large increase in the number of motor cars on the streets of Bangkok. His Majesty's fondness of motoring on land and water is well known, and he has done a great deal to aid the introduction of motor cars and boats into his kingdom. The large number of pleasure boats engaging in the annual motor-boat race this year is evidence of the growing popularity of that kind of recreation. There are also in Bangkok several companies running services of motor boats on the river and connecting waters.

AUSTRALIA.

WHEELS AND TIRES SHOULD BE MADE IN MILLIMETER SIZES.

Consul Henry D. Baker, of Hobart, makes the following suggestions to manufacturers of automobiles and parts who desire to share the trade of Tasmania and other Australian States:

American manufacturers of motor-car tires, if they desire to cater to the trade in Tasmania, should make the goods destined for this market of millimeter sizes and should have their goods shipped with greater care than at present. Most of the motor cars in use in Tasmania are of British or French make and are all equipped with metric-size rims.

It is so much easier here to get good English or French tires than American tires that even the owners of American cars have nearly all gone to considerable expense in having the rims on their wheels changed to metric sizes, so that they can use the English or French tires. American manufacturers should supply tires in uniformity with the sizes in local use, and should take care that their goods reach Tasmania in good condition. Their goods might then be sold not only for American cars, but for British and French cars as well.

It is a common fault with American tires on Tasmanian roads that they blow out around the edges. This seems to be due to deterioration of the rubber on the long transit out here, the tires not having been placed in the coolest and driest places possible on the freight ship. The English and French tires arrive in much better condition, being shipped with a cautionary notice, "Do not stow near boilers."

SUGGESTIONS FOR IMPROVING TRADE.

Owing to the present poor reputation of American tires here, those manufacturers who wish to improve their trade should be liberal in their guarantees and be willing to replace tires which prove faulty or damaged in transit.

American motor-car manufacturers should not send cars to this market unless the rims and tires are in millimeter sizes. Otherwise their patrons are likely to consider it necessary to go to the expense of changing them, as already explained. American cars would certainly sell better here if they were not handicapped by the inch sizes. The sizes most commonly in use in Tasmania are the 880 by 120 or 125 millimeters (the last two being interchangeable with the 880 rim), 820 by 120 or 125 millimeters, 760 by 90 or 100 millimeters, and 815 by 105 millimeters.

The cars which arrive here both from Europe and America nearly all seem undertired. One American car owner relates that his car had approximately 870 by 100 millimeter tires on when it arrived and that he had repeated trouble, but when the rear tires were changed to 120-millimeter size there was a marked improvement. Another person who at first with 100-millimeter tires had only an average of 850 miles use for each tire, on changing to 125-millimeter size improved his average to 3,000 miles for each tire.

MERITS AND DEMERITS OF AMERICAN CAR.

An owner of one of the cheaper makes of American cars, who is very well satisfied with his car, on request, submitted a memorandum of what he considers the greatest advantages or disadvantages of his make of car on the Tasmanian roads, as follows: (1) The width between the wheels is the same as the ordinary vehicles using our roads, 4 feet 8½ inches. On the roughly macadamized roads it is an immense advantage to be able to follow in the tracks of other traffic. (2) They are very light on their tires. (3) They are not expensive in consumption of naphtha. In a 96-mile trip over hilly roads the American car referred to consumed 2¾ gallons of petrol.

Their disadvantages are: (1) They have only two forward speeds. There are many hills in Tasmania which a single-cylinder car can not negotiate on the top speed, and the speed is too slow when the car is driven on the hill-climbing gear. An intermediate forward speed would therefore be of great desideratum. (2) The shaft is weak in proportion to the weight of the fly wheel.

It is understood that in later models the fly wheel has been made lighter and the shaft made of a tougher steel, so that possibly the second disadvantage has been removed.

CANADA.

GROWING MARKET FOR MARINE MOTORS IN NEW BRUNSWICK.

Consul Gebhard Willrich, of St. John, sends the following report on the market for marine motors in that New Brunswick city, and also makes suggestions to American manufacturers who desire to secure a part of the trade:

Marine motors are coming into general use among the fishermen of St. John and neighboring ports. The sale of engines for use in dories is the feature of the local trade. For this reason an engine to commend itself to local favor should be simple in construction, strong, and reliable. It should also be equipped with a valve system favorable to salt-water operation and preferably low speed, as the type of dory in vogue here is large and heavy.

It will be necessary to extend credit, as most of the engines are sold on the installment plan, title passing only upon completion of payment. The fishermen as a class are honest, and loss on their account is of rare occurrence. For the successful introduction of a new motor it is essential to have a responsible demonstrator on the ground, who will stand back of the engine with a practical guaranty and ready to furnish free repairs for a limited period.

For pleasure craft and as supplementary power for coasting vessels there is a well-maintained additional demand, and, although the territory is well worked, St. John offers a promising market for a marine engine adapted to local needs. If properly pushed by an enterprising representative, there can be no doubt that a fair amount of business may be secured, even in competition with the firms already on the ground.

All the dealers in marine engines at St. John are also manufacturers or represent some particular factory to the exclusion of other makes. A number of American manufacturers have branch houses, agencies, or representatives here, who push the sale of their goods. Advertising for a representative in the local papers would probably bring desired results. [The addresses of motor dealers, also of the newspapers, of St. John may be secured at the Bureau of Manufactures.]

COLOMBIA.

MOTOR BOATS AND INCREASED USE OF WATER TRANSPORTATION.

Consul-General Jay White, of Bogota, in addition to former reports on motor boats in Colombia, submits the following items on the subject:

Owing to the possession of an extensive coast line, both on the Atlantic and on the Pacific, and the existence of many navigable rivers which are now used as means of communication, Colombia should be in the near future a good market for motor boats. The high rates of duty assessed on suitable fuel, the lack of domestic combustible at low selling prices, and the difficulties experienced in obtaining repairs are the obstacles which must be overcome.

Fuel for the production of power is comparatively high in this country. The right to make denatured alcohol is a monopoly, and although there is an abundance of raw material for its manufacture the lowest price at which it is sold in Colombia is 60 cents per gallon. The usual price is 80 cents per gallon. Kerosene sells for 96 cents per gallon, or 70 cents in 10-gallon lots, while gasoline is worth $2 per gallon, or $1.50 in 10-gallon lots. The prices of kerosene and gasoline vary considerably, being cheaper near ports of entry.

Freight rates are unusually high, and merchandise is handled in large champanes, or canoes. Local freight pays, on river steamers, about 3 cents per ton per mile. The lowest rate for a long haul on river steamers is that from Barranquilla to La Dorada, a distance of 600 miles, at $12.75 per ton.

Outside of the large coast and inland towns machine repair shops in Colombia nearly all belong to the railway companies. [There are on file in the Bureau of Manufactures addresses of companies and of individuals of Colombia who may be interested in motor boats; also of dealers in fuels for motor engines, and of electric-lighting plants, where electric-motor batteries may be charged; also pictures of canoes in which motor engines might be installed, and a map of Colombia, showing the navigable rivers.]

ROAD VEHICLES.

SCOTLAND.

HOW AMERICAN CARRIAGES MAY BE INTRODUCED INTO THAT MARKET.

In reply to a communication from an American carriage manufacturing company, Consul Rufus Fleming, of Edinburgh, supplies the following information concerning the manufacture and trade in carriages in the capital of Scotland and Scotland generally:

There is one marked difference between the carriage trade here and in the United States. In this district there are no repositories, or firms dealing in various makes of vehicles; each carriage concern sells only vehicles which it manufactures.

Carriage building is one of the oldest crafts in Edinburgh, and has long had a place in the highest rank of mechanical labor. This is evidenced by the fact that in it there are no less than six distinct six-year apprenticeships to be served therein, viz, body makers, under carriage makers, wheelers, smiths, trimmers, and painters. Each of these branches is a separate department. Coach makers are, as a rule, their own architects, and give much care to the designing of bodies. The framework of the bodies is of home-grown ash, the other woods principally used being mahogany, walnut, lancewood, birch, oak, and American pine. For some years the wheels have been nearly all imported from the United States. The springs and axles are brought from England, but all the rest of the iron and steel used in the construction of first-class carriages is hand-forged on the premises. A Scotch-made carriage is heavier than the American vehicle of the same general pattern and is comparatively clumsy in appearance. Our light carriages, dogcarts, and sulkies have never gained favor here, the people showing a deliberate preference for thickness and weight of material, despite any demonstration of the adequacy of vehicles of lighter construction. In order to be salable here any foreign-made carriage must suit the Scotch taste in respect to solidity of appearance.

In my opinion only an independent agency, with a repository in Glasgow or Edinburgh, can place American carriages on the market in this part of the country with any prospect of success. And the outlook for a profitable trade in vehicles of light construction, however strong and durable they may be, is not promising. Only the Scotch type of carriage can be sold in Scotland to any considerable extent.

CARRIAGE VERSUS MOTOR MANUFACTURE.

In the last ten years a great change has come over the carriage trade, due to the advent of the motor car. The leading carriage builders have become manufacturers of motor bodies. At first the tendency among the motor-purchasing public was to buy their cars complete from the makers. But it is now a common practice to order the chassis from the manufacturer or agent, and to have the body built according to one's own special requirements by a coach maker. The carriage-making concerns also sell the complete motor cars as received from the manufacturers. Several prominent firms in this city have practically abandoned carriage building to devote their attention to the motor-car trade. A member of one local firm of outstanding importance informs me that they now sell only second-hand carriages, the motor-car trade having developed to such an extent that they no longer find it profitable to make other vehicles. How long this condition will continue is a subject for conjecture, but there can be no doubt that the horse carriage has been relegated to a minor position in the market.

BRAZIL.

NEW LAW FORBIDS USE OF SPRINGLESS VEHICLES IN PERNAMBUCO.

Consul George A. Chamberlain, of Pernambuco, calls the attention of American manufacturers to the demand recently created in that Brazilian city for modern drays.

Pernambuco is the converging point of three railways which penetrate the interior of the Brazilian State of Pernambuco and of all the small water craft from a distance of over a hundred miles up and down the coast. These railways and craft are constant feeders

for the drays that serve as a link between the points of arrival and storehouses, wharves, etc.

The principal products collected here for export are sugar, the yearly crops of which average 2,000,000 bags of about 160 pounds, and an average cotton crop of 200,000 bales of 160 pounds each. Besides these products there is a large local traffic in cereals, fodder, and mandioc flour. Add to these items the many tons per week of merchandise received from abroad and which is conveyed from the custom-house to private warehouses and stores and again distributed from there to retailers and upcountry points and it will be seen that considerable hauling business is done in this city. The dray facilities for handling this freight have been inadequate, the bulk of the work being done on low, four-wheeled ox carts, 2½ feet wide by about 8 feet long.

Four years ago a law was passed withdrawing licenses from these carts and from all other springless vehicles, and has recently been revived by the mayor. It is now affirmed that after March of 1909 no springless vehicles of any description will be allowed on the streets. As a consequence an industry of wagon building has sprung up, and wagons are being rapidly introduced.

MARKET FOR VEHICLES "KNOCKED DOWN" AND UNPAINTED.

So far no importations of any account have taken place, the new wagons being almost entirely manufactured on the spot. Owing to the high cost of materials here and poor facilities, it is probable that American manufacturers could compete in spite of import duties and freight charges.

In filling orders shippers should be especially careful to follow instructions to the letter. More than one American carriage has been abandoned in the custom-house because the manufacturer thought he would give the buyer a surprise and paint it, against instructions, for nothing, little knowing that it meant $100 to $200 difference in the duty. Carriages shipped "knocked down" and unpainted pay from 50 to 75 per cent less duty than the same articles finished. [A list of possible importers of vehicles for heavy hauling in Pernambuco may be obtained from the Bureau of Manufactures.]

TRANSVAAL.

AMERICAN CARRIAGES MORE ATTRACTIVE THAN OTHER MAKES.

Consul Edwin N. Gunsaulus, of Johannesburg, calls the attention of American manufacturers of carriages to the markets for their goods in the Transvaal. He says:

There is a good trade in buggies and carriages in the Transvaal. Certain classes of American vehicles are always in demand, though with the increasing use of motor cars and the enlarged and perfected system of street-car service, in Johannesburg particularly, the demand for the higher-priced buggies and carriages is not as great as formerly. The vehicles most in use, and for which there is always a fair market, consist of the extension-top surrey, carriages with front and rear seats, and two-wheeled vehicles of the dogcart or trap variety. Canopy-top vehicles are not used in this country. In some classes of carriages, notably the kind in use in England, the American firms do not successfully compete in price and quality with British manufacturers. There is no reason why the American article should not have a much larger sale here than it now has. The American-built vehicle is usually much lighter. It is constructed on more attractive lines than those made elsewhere, and for use where bad roads are not encountered has many elements of popularity.

Some makes of Canadian buggies and carriages come into competition with the United States product, and in a few instances Canadian manufacturers have quoted lower prices for apparently the same article.

With a good grade of material and the quotation of satisfactory prices American vehicle manufacturers should find a good market for their product in South Africa, particularly in Johannesburg and the surrounding country. Sales to dealers here are made through some of the large American exporting houses which have local agents in the Transvaal. [A list of carriage dealers in Johannesburg and Pretoria may be obtained from the Bureau of Manufactures.]

HIGHWAY SIGNS.

GERMANY.

CONVENIENCE TO PUBLIC AND PROTECTION TO PROPERTY RENDERED.

Consul-General Robert P. Skinner, of Hamburg, sends the following report on street and highway signs used in that German city and the adjacent country districts:

In Hamburg the names of streets are designated by order of the Senate and, according to the municipal building police law of 1882, the proper signs are put in place by the municipal building department. As a rule, enameled iron signs are used, the letters appearing in white on a blue ground. The capital letters are about 4 to 5 inches, the small letters approximately 3 inches high, and the whole height (width) of the signs is about 7 inches, the length varying in accordance with the number of letters in the name of the street.

In thinly populated districts zinc is used as material for street signs instead of enameled iron, as practice has proven that enameled signs are too frequently mutilated. Such zinc signs are of a similar shape as the enameled ones, and the letters on them are in relief, painted white in oil on a blue ground.

On houses directly adjacent to the street line such signs are attached to the wall on every corner, about 10 to 15 feet above the ground. In suburban districts, where houses are surrounded by gardens, on streets where the corner houses are farther than 10 feet away from the street line, and on streets without buildings, the signs are affixed to painted wooden poles about 11 feet high erected at the street corners.

METHOD OF PLACING SIGNS.

Such poles are so arranged that the signboard points in the direction of the two intersecting streets. The building department attempts, as far as practicable and useful, to attach street signs on crossings on every side of the streets, so that at each street intersection eight signs are attached to four poles or to the buildings if such are on the street line.

In recent years the Hamburg building department, which is also required to furnish and attach house numbers for property owners (the same being of the same material as street signs, square, with numbers about 4 inches high), has begun to attach under every street sign in the city another sign of the same material and of about the same size, indicating the inclusive house numbers in the block, thus:

HERMANNSTRASSE

41 → 69

The signs on the opposite corner and on the other corner of the same block would bear the following inscriptions:

HERMANNSTRASSE HERMANNSTRASSE

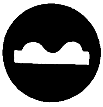
19 ← 39 41 ← 69

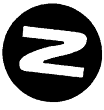
By means of these signs one can easily locate a certain house or other property.

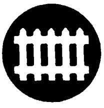
FIRE ALARMS, ETC., LOCATED—SIGNALS FOR AUTOMOBILISTS.

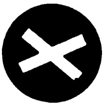
Besides these street signs, the municipal authorities attach a number of other signs at conspicuous places on public squares or streets in the general interest of the public; for instance, red iron enameled signs designating the location of the nearest fire alarm and police station. These signs are usually affixed above or in the vicinity of letter boxes or above or underneath street signs, occasionally also on lamp posts. There are also signs in use by the Hamburg gas and water-supply departments for emergency purposes which, attached to houses at short distances between one another, indicate by measurement the location of the nearest hydrants, which are usually under the pavement of the street, kept closed by a strong iron lid; also the location of the nearest locks to shut off sewer and gas and water pipes.

One of the results of the international conference of automobile clubs, held in December, 1908, was to advise and recommend the erection of danger signals on all public highways by means of conventional figures conveying their own meaning, regardless of the language of the explanatory text. As the European touring and motor clubs are very active in work of this kind, it will not be long before the Continent will be fairly well provided with signals of the following types:


Approach to cross ditches.


Approach to sharp curves.


Approach to grade crossing.

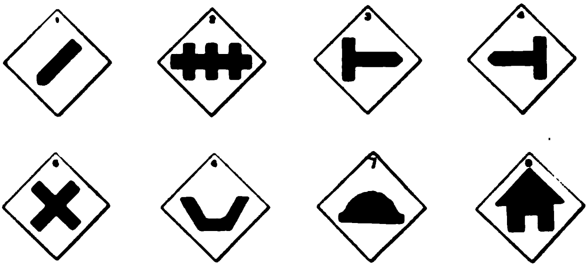

Approach to cross-roads.

UNITED STATES.

CAUTION SYMBOLS ADOPTED BY THE MOTOR LEAGUE.

Following are the American Motor League "Caution Signs." The background and posts are white, the symbols black.

No. 1 indicates approach to a steep descent; No. 2, approach to a railroad crossing; No. 3, approach to a branch road (to right); No. 4, approach to a branch road (to left); No. 5, approach to cross roads; No. 6, approach to a ditch or abrupt depression in the road; No. 7, approach to a hummock or "thank you, ma'am;" No. 8, approach to a city, village, or other collection of inhabited dwellings; No. 9 is a general caution signal indicating the proximity of any danger or obstruction not scheduled above, or any other condition requiring caution. No. 9 (not shown in cut) is a plain white sign and can be improvised in emergent cases by using a sheet of white cloth fastened upon a board of proper shape. Each sign is placed at a distance of not less than 200 nor more than 300 yards from the point to which it refers.



FOODS AND DRINKS.

FRUITS AND NUTS.

ITALY.

EFFECTS OF THE EARTHQUAKE ON THE CITRUS-PRODUCTS INDUSTRY.

In answer to inquiries, Consul William Henry Bishop, of Palermo, furnishes the following information concerning essential oils in his district and the effects of the earthquake on the industry in Sicily:

No bergamots are grown in Sicily, and no bergamot oil is produced in this consular district. The whole supply has been coming from a small section of southern Calabria opposite Messina, one of the regions most afflicted by the disastrous earthquake of December 28 last. The great production of essential oils, including orange oil, has been at Messina and vicinity, and 75 per cent of the total production for Italy was customarily exported from that place. Our late consul at Messina, Dr. Arthur S. Cheney, had made a report on the subject, which no doubt covered the conditions, practically for all of Sicily, up to that time.

The average annual production of orange oil in the Province of Palermo has been about 1,100 pounds. None is manufactured in the provinces of Trapani, Girgenti, and Caltanissetta, constituting the remainder of the consular district. Even the output of this vicinity was usually sent to Messina for export. The season of manufacture begins with September and ends with December, or in the more elevated region may be prolonged through January. There was seen in 1908 the phenomenon of low prices with a small output, while prices in 1907 were high with a very large output. This was due to the fact that, owing to the profitable rates then realized, there had been a great rush to produce, resulting in large stocks being left over.

The result of the earthquake has been to double or triple prices of essential oils. This large advance is true of all derivatives of the citrus fruits, such as citrate of lime, citric acid, etc. It is believed, however, that the panic of alarm from the disaster is being used to some extent as an element of speculation. A considerable stock was really found in the warehouses unharmed by the general destruction of Messina; factories remain in the small towns near there, such as Ali and Barcellona, and, as the time demanded for manufacture is not long, fruit which would under ordinary circumstances have been exported will be rapidly made up into essences, etc., to meet the demand. Prices may therefore be soon expected to drop much nearer to a normal level.

It was one of the signs of awakening life at Messina that two manufactories of citrate of lime were opened at Gazzi, a suburb of that city, before January 20. Some ten thousand families in the Province of Messina and Catania, engaged in the industries following the harvesting of the citrus fruits, were thrown out of employment by the earthquake.

ITALIAN FRUIT EXCHANGE.

AIM OF ORGANIZATION TO DEVELOP INDUSTRY OF BY-PRODUCTS.

Ambassador Lloyd C. Griscom, of Rome, forwards the following translation of a note from the Italian minister of foreign affairs, relative to the object of the recently organized Citrus Fruit Exchange of Messina, in the island of Sicily:

Many people have misunderstood the scope of the Camera Agrumaria, or Citrus Fruit Exchange, recently instituted at Messina in accordance with the Italian law of January 5, 1908. It has been erroneously believed that the provisions adopted in order to favor the commerce of citrus fruits and their by-products was meant to constitute a kind of trust intended to keep up the price of citrus products to the disadvantage of consumers in all countries. Nothing of the kind was intended.

First of all we have to point out that the orange and lemon trade is free from any regulations, and that the Camera Agrumaria directs its particular interests toward the derived products of citrus fruits. But even for these products the exchange has not the functions of a compulsory association, but is an institution about which producers, who prefer not to run the risk of an isolated and disorganized commerce, are asked to group themselves. With this idea, the Camera Agrumaria not only guarantees with certificates of analysis the genuineness and the quality of the citrate of lime and of the "agricotta" produced in the Kingdom, both for its sale in Italy and for exportation, but provides for the sale of the same products on behalf of the producers who may request it. Besides this, another duty is intrusted to the Camera Agrumaria, namely, to promote and facilitate the plan and working of the factories for the production of citric acid, candies, and other products derived from oranges, lemons, etc.

The principal object of the Camera Agrumaria is the organization of industry and commerce of derived products, and this organization could not be more liberal; on the other hand, the commerce in oranges and lemons, which represents the most prominent feature of the production, continues to develop as freely as before.

It is true that among the functions of the exchange is that of studying and promoting provisions suitable for developing and regulating the commerce of oranges and lemons, but it is easily understood that any provisions intended to regulate the said commerce, especially in the sense of restraining freedom of commerce, are obliged in any case to have the sanction of the legislative branch of the Government. This sanction has not been given.

SPAIN.

SUCCESSFUL ALMOND GROWING WITH ARTIFICIAL FERTILIZER.

Consul Charles S. Winans, of Valencia, sends the following report on the increased attention given to the cultivation and production of almonds in Spain:

The method in former years of raising almonds in this region was similar to that obtaining in the production of olives. Trees were planted in the poorest soils or in out-of-the-way plots considered incapable of producing any other profitable crop, and were there left almost entirely without care or cultivation. However, the persistent depreciation of vine products, both wine and raisins having now reached a value limit at which it is impossible to produce them profitably, has turned the attention of farmers to almonds, which not only maintain values but show a tendency to advance. Almond trees are now being planted among unprofitable vines and are submitted to careful and intensive cultivation.

As a comparative test of the production of almonds under the same conditions, but with and without fertilizers, a prominent fruit grower of Alicante divided his orchard last season into two equal parts, soil and age of trees being identical. One section of the plantation, after the usual superficial cleaning, weeding, and pruning, was left to the unaided resources of nature, and to the other the following fertilizers per hectare (2.47 acres) were applied: Three hundred and seventy-five kilos (kilo equals 2.2 pounds) superphosphates, 90 kilos nitrate of soda, 90 kilos sulphate of ammonia, 500 kilos kainit (Strassfurt salts, largely composed of potassic chloride). The results were remarkable. The section of the orchard unfertilized yielded 457 kilos of almonds per hectare, while the part treated with fertilizers produced 1,721 kilos per hectare. The cost of the fertilizers was 149 pesetas (about $25.40), and the net profit on the experiment was 443 pesetas (about $75.30) to the hectare.

GERMANY.

MANUFACTURE OF EVAPORATED AND STUFFED PRUNES.

Consul-General Richard Guenther, of Frankfort, transmits the following relative to preserving prunes, etc., in Germany:

The processes of preserving the fruits for fruit confections in Germany are regarded as secrets and can not be described. Among the methods deemed superior to those in use by others are the processes employed by a firm of Oppenheim, in Hesse, whose product American fruit preservers have been unable to equal. This house makes a specialty of the so-called "Kaiserpflaumen," which are packed in boxes ranging from one-fourth to 5 kilos (kilo=2.2 pounds). For the best stuffed prunes a certain variety of blue plum, the Buchler, is used. These plums are pitted, preserved in sugar, and then one is placed within another to preserve, as far as possible, the original shape of the fruit.

FLOUR TRADE.

BRAZIL.

LARGE DECREASE IN THE QUANTITY OF FLOUR IMPORTED.

Consul-General George E. Anderson, of Rio de Janeiro, sends the following report on Brazil's flour trade for 1908:

The record of flour imports into Brazil in 1908 contains much that is significant to the trade. In line with the record of 1907, as compared with that of the year previous, the record for 1908 shows an increase in imports from "other countries" than the Argentine, the United States, and Austria-Hungary, which means the further development of mills in Uruguay. Indeed, the only increase in the shipments of flour into Brazil in 1908 was from that country and, while the total imports from Uruguay as yet do not amount to much, the growth of the business in that Republic is significant as regards the future.

The record of flour imports in general is also significant for the notable increase in average price for the year on flour for all of the several countries concerned. In the quantity of imports there was a falling off in imports of 19,177 metric tons, or about 11.2 per cent, as compared with the imports of 1907. In values there was a falling off in the imports of $624,601, or about 6.5 per cent. The general course of the trade in amounts is indicated by the following table of imports covering the past five years, the years covering the larger development of Argentina's trade at the expense of the trade of the United States (in kilos of 2.204 pounds each):

Year.	Argentina.	United States.	Austria-Hungary.	Other countries.	Total.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
1904	86,806,911	30,241,434	9,212,826	4,787,950	131,049,121
1905	108,577,803	20,000,484	6,741,582	5,144,546	140,464,415
1906	122,282,483	24,526,155	6,334,679	802,690	153,946,007
1907	126,379,414	29,542,695	8,084,046	6,296,841	170,252,996
1908	112,074,753	25,712,273	6,437,111	6,851,940	151,076,077

RELATIVELY HIGH VALUES DURING LAST YEAR.

The decreases in values are not as great as the decreases in quantities of imports. The decrease in the quantity of imports from the Argentine amounts to about 11.1 per cent, or almost exactly the same as the proportionate falling off for all the flour imports. The decrease in value, however, amounted only to about 9 per cent, the imports of 1907 being valued at $6,662,757 and in 1908 at $6,053,854, the difference in values being $608,903. The decrease in the amount of imports from the United States was about 3,831 metric tons, or about 13 per cent, being the greatest decrease of all countries. The value of these imports in 1908, however, was $1,910,072, as compared with $1,937,807 in the preceding year, the decrease in the value being only $27,735, or about 1.6 per cent, which is the least rate of loss of any of the countries except Uruguay. The value of the imports from Austria-Hungary in 1908 was $542,297, as compared with $579,831 in 1907, the loss of trade being $37,534, or about 6.4 per cent. The value of the imports from all other countries, chiefly Uruguay, in 1908 was $387,037, as compared with $328,468 in 1907, a gain of $56,569, or about 14 per cent. The value of the total imports of flour in Brazil in 1908 was $8,884,260, as compared with $9,508,861, a loss of about 6.5 per cent.

UNITED STATES SHOULD CULTIVATE MARKETS OF NORTHERN PORTS.

It is evident that Brazil paid a higher price for its flour in 1908 than in 1907, and incidentally it appears that in the loss of trade, due to a general decrease of imports into Brazil, the United States lost considerable in quantity, but little in value. In other words, it secured almost as much in credits in international trade as it did the year before, but with much less product. The decrease in the flour trade is in keeping with the general trend of Brazilian imports for 1908 and not due to any extraordinary cause, though there has been some increase in the imports of wheat.

In the matter of destination in Brazil there has been practically no change from the course of the trade in 1907. American trade is confined to the northern ports, very little finding its way as far south as Rio de Janeiro. The closing months of the year, however, indicated a more favorable position of American flour in Rio de Janeiro, but it is very doubtful if the change is more than a temporary condition at best. The further development of the American market in the northern ports is quite possible, and probably represents the profitable trade in American flour in Brazil in the future.

COLOMBIA.

NEW MILLS IN THE CARIBBEAN COAST REGION.

The following report from Consul Charles C. Eberhardt, at Barranquilla, shows the great activity in the extension of the flour-milling industry in Colombia:

A new mill of 100 barrels daily capacity, the second mill equipped with American machinery to be established in Barranquilla within three years, is now about completed; wheat has been ordered from the United States, and grinding is expected to commence early in March.

It is gratifying to note the strong hold, amounting almost to a monoply, that the American manufacturers of flour-making machinery have upon the Colombian market. The flour-milling industry is new to the Caribbean coast country, where, up to some three years ago, practically all wheat flour used was imported from the United States, but in the uplands of the interior, where wheat can be successfully grown, the industry has flourished for some time, and American machinery, once tried in the mills there, has competed so successfully with that of other countries as to establish to the satisfaction of Colombian millers its superiority over all other machinery to such an extent that machinery from other countries is rarely to be seen in mills here. In fact, I am reliably informed that of the modern, up-to-date mills in Colombia, practically all are equipped with American machinery (one Indianapolis firm furnishing most of the machinery).

PROFITS IN MANUFACTURING.

The flour-milling industry in Colombia seems to be a most remunerative one. On wheat brought for grinding, one miller in the interior is said to be making 200 per cent. Of another it is said that in establishing a mill he ordered only second-hand and the cheapest machinery obtainable. Asked why he pursued such a course, he replied that in one year he could clear enough, even with such machinery, to live comfortably for years, so why should he spend extra money for first-class machinery. Another mill, established at a cost of approximately $60,000 gold, is said to have paid for itself in four months from the time operations were commenced, which might well be believed when it is remembered that, as mentioned in a former report, flour often sells at a profit of $9.60 gold per barrel. Nevertheless, with all this activity, the supply in the coast country never equals the demand, and, though the establishment of new flouring mills should eventually care for the entire local market, at present large amounts of American flour are still being imported.

The almost phenomenal success of the 100-barrel mill established in Barranquilla some three years ago, the erection of another mill of similar capacity which is about to commence operations, and the reported establishment of another mill of 50 barrels daily capacity at a smaller town on the coast, all equipped with the most modern, up-to-date American machinery, would seem to attest to the faith of Colombian capitalists in the future of such enterprises, and at the same time to offer a field for increased sales of American machinery and wheat.

MEATS AND POULTRY.

AUSTRIA.

HOW THE DELICATE PRAGUE HAMS ARE PREPARED.

Consul Joseph I. Brittain, of Prague, sends the following account of the method employed by Bohemian establishments in curing hams for export:

At present there appears to be a disposition on the part of the dealers in Prague hams to increase the sale of that product in the United States. For years past these hams have been sent to the United States in small lots, to be consumed by patrons of the better class of restaurants and hotels as a sort of delicacy. The sales have been made in the winter season, as the method by which the hams have hitherto been prepared would not permit their being shipped long distances during warm weather.

By subjecting the hams to a coating of material known as "mrasolin," invented by a Prague butcher, it is claimed that they may be shipped to the warmest climates and remain perfectly fresh almost indefinitely. Mrasolin is sold in thick sheets, is as pliable as rubber, and light in color. It is melted in a vessel placed inside another vessel containing boiling water, similar to the method employed in melting glue. When the material has been thoroughly melted the hams are immersed and then hung up for five or ten minutes, during which time the coating thoroughly hardens. They are then packed in boxes or large baskets ready for shipment. About 6 to 8 ounces of the liquid adheres to each ham, making an air-tight covering. The mrasolin can be peeled from the ham almost as easily as the skin from a banana.

USES OF MRASOLIN—INSPECTION—CURING PROCESSES, ETC.

It is claimed that all meats, eggs, and butter can be equally well preserved by the application of a coating of mrasolin. The material is said to be harmless and tasteless, and in addition to its preserving qualities keeps out all sorts of dirt and other foreign substances.

The Prague hams, which have a great reputation for tenderness and fineness of flavor, are taken from animals about 8 to 10 months old, and must each be inspected by the city veterinary before reaching the hands of those who make a business of curing them.

These hams are first salted in large vats, then placed in specially prepared ovens, where they are subjected to beech-wood smoke for ten to twelve hours. It is also claimed that the flesh is treated by some secret method which gives the fine flavor. The hams, after having been smoked, are hung up in cool cellars, where they remain until sold. Many of the small preservers of meat fill their cellars with ice, building a solid wall adjoining the place where the meat is kept.

There are in Prague and adjacent districts 1,138 establishments, which annually cure about $4,872,000 worth of such hams. The wholesale price of the ham is about 21 cents per pound, while the retail price when boiled is 61 cents, and when sliced 81 cents per pound.

CANADA.

LAW GOVERNING THE PREPARATION OF MEATS FOR EXPORTATION.

Consul John E. Hamilton, of Cornwall, furnishes the following information relative to the Canadian law requirements in the preparation of meats for foreign markets:

The act to regulate meat and canned foods provides official inspection of all animals for slaughter and of all carcasses and portions or products to be packed in cans and intended for exportation. The inspection applies during the whole process of preparation and packing, and these processes are subject to reinspection. The act lays down as an absolute principle that all animals, carcasses, fish, fruit, and vegetables prepared for export shall be sound, wholesome, and fit for food. All articles packed must be marked with the name and address of the packer; a true and correct description of contents; but the governor in council may exempt articles when he is satisfied such markings would hinder the sale in British or other foreign markets.

Inspected carcasses or portions thereof which have been passed as fit must bear an official distinction mark viz, "Canada approved," the Crown, and number of the establishment.

The penalties for violations of the act are as follows: First offense, one year's imprisonment, and for second or any other offense, two years' imprisonment. Establishments failing to comply with the requirements of the act may be closed. For tampering with marks a fine of $100 is imposed. Other violations, such as bribery of inspectors, unlawful removals, etc., are subject to fines not exceeding $500.

The governor in council must approve all rates, charges, and imposition of penalties. The minister of agriculture is empowered to apoint inspectors and to arrange for inspection and supervision for the regulation and control of the temperature, etc.

Cold-storage warehouses are established under the governor in council, who is empowered to grant money for the construction and equipment thereof not to exceed 30 per cent of total cost.

BELGIUM.

EXTENSIVE IMPORTS AND EXPORTS OF EGGS AND FOWLS.

Consul H. Abert Johnson, of Liege, has compiled the following statistics concerning the egg and poultry trade of Belgium:

In 1908 there were imported 190,339,870 eggs, against 218,865,430 in 1907. The receipts last December were: From Russia, 7,682,880; Germany, 1,044,399; Austria-Hungary, 686,850; Turkey, 606,500; Bulgaria, 537,000; Netherlands, 494,333; France, 359,183. The Belgian exports of eggs in 1908 was 128,767,967, against 129,296,878 in 1907. The best customer is France, which took last December 12,099,666 eggs.

The importation of dressed poultry in 1908 was 42,028 kilos (kilo=2.2 pounds), against 43,124 kilos in 1907. From Italy came

5,172 kilos during last December, and from Germany 4,800 kilos. The exports of dressed poultry were 548,284 kilos in 1908, against 534,463 kilos in 1907. The best market is Germany, whither 45,966 kilos were shipped last December.

The imports of live poultry in 1908 amounted to 814,712 kilos, while the exports were 348,340 kilos.

SUGAR INDUSTRY.

CUBA.

REFINING FACTORIES ARE APPARENTLY SUCCESSFUL.

Consul-General James L. Rodgers, of Habana, reports that the refining of sugar, as carried on in a commercial way in Cuba, is now practically confined to Cardenas, where there are three refineries, concerning which he writes:

These are the plants of the Cuban Sugar Refining Company (owned by the Cuban-American Sugar Company), of José Arechabala & Co., and of Echevarria & Co., the latter being entirely new and operating this year for the first time. The first named plant refined last year 13,500,000 pounds of crude sugar, which was supplied from its mills in the vicinity of Cardenas, and the Arechabala factory handled 11,375,000 pounds, the average price paid for the crude sugar being, it is stated, a little over 2½ cents American money per pound. No figures are obtainable as to the selling price, but it is reasonable to suppose that it was little less than American or European refined, plus freight, insurance, duty, and other charges. The probability is that the average price obtained was about 4 cents per pound. It is broadly stated that under the present Cuban tariff these refineries are making a satisfactory profit.

There are many small plants in Cuba where a rough refining of sugar for purely local and restricted consumption is effected. These so-called "turbinas," however, do not enter much into the modern refining question, and their aggregate output, so far as can be ascertained, is entirely unknown.

EXPECTATIONS OF LARGE YIELD ARE SUSTAINED.

Consul-General Rodgers further reports that Cuban statistics of the exportation and stock of sugar in the producing season of 1909, up to March 1, show a total of 593,848 tons, as compared with a production of 417,006 tons during a similar period of the year preceding. Other details follows:

The sugar output of the 1909 grinding season is, therefore, only 64,908 tons below the production of the same period of the great crop year of 1907. Furthermore, the output to March 1 is 42½ per cent greater than that of the similar period of 1908, and this, if continued, would indicate a crop slightly in excess of 1,400,000 tons. As usual, however, this statement is subject to the absolute qualification arising through weather conditions. All that can be said with certainty up to the present is that the early expectations as to a large crop have been sustained.

AUSTRIA-HUNGARY.

INCREASES IN EXPORT UNDER BRUSSELS CONVENTION.

Consul-General W. A. Rublee, of Vienna, advises that the export of sugar from Austria-Hungary in the year 1908 was 968,883 tons, as compared with 723,671 tons in 1907 and 921,448 tons in 1906. His further details follow:

The export of sugar was therefore about 15.5 per cent greater in 1908 than in the preceding year. This considerable increase in the export of sugar from Austria-Hungary was due principally to the high prices for unrefined sugar in the months of March, April, and May, 1908, which brought about considerable sales to England. The export of unrefined sugar from Austria-Hungary in 1908 was thereby brought to the unusual amount of 232,980 tons, which was 111,760 tons more than in 1907. The increase in the export of raw sugar from Austria-Hungary since the adoption of the Brussels convention is shown by the following figures: In 1904, 22,116 tons; 1905, 97,802 tons; 1906, 61,032 tons; 1907, 121,298 tons; 1908, 232,980 tons. England took 90 per cent of the unrefined sugar exported, while the United States took 12,540 tons in 1908, and smaller quantities were sent to Servia and India.

The growth in the export of unrefined sugar to England causes some loss in the export of refined sugar to that country, as in 1903 the refined sugar exported amounted to 330,000 tons and in 1908 was 297,000 tons. As compared with 1907, the export of refined sugar showed a slight gain of 16,610 tons. The development of the export of refined sugar from Austria-Hungary in recent years is shown by the following figures: In 1904, 517,184 tons; 1905, 528,795 tons; 1906, 774,374 tons; 1907, 645,635 tons; 1908, 662,255 tons.

GERMANY.

ASSOCIATION TO INCREASE THE CONSUMPTION OF SUGAR.

Consul Frank S. Hannah, of Magdeburg, advises that at a meeting on February 23 in Berlin and attended by about 400 of the leading sugar refiners, beet growers, etc., an association was formed having as its object to increase the consumption of sugar in Germany.

It was shown that Germany consumes much less sugar per capita than most of the other civilized countries and it is especially desired that the home consumption be vastly increased, so as to find a ready inland market for the German production. Since the Brussels Convention has gone into effect, Russia has become a more important competitor in the world's market and, as the possibility of extending the production there is almost unlimited, conditions for the German sugar industry will not improve. It was generally agreed that the raising of beets makes the land more productive for the raising of grain in following years, than land which had been devoted to other purposes.

Attention was also called to the fact that in the last six years the production of cane sugar has increased 20,000,000 centners (centner, 110 pounds), while the beet-sugar production has increased 6,000,000 centners. And this notwithstanding the fact that Cuba only uses one-fourteenth part of her area which is suitable for sugar raising.

The association starts with a membership of 57 proprietors of sugar refineries and 3,500 producers of and dealers in sugar beets.

JAVA.

CONSIDERABLE INCREASE IN THE ISLAND'S PRODUCTION.

Consul B. S. Rairden, of Batavia, submits the following statement of production of sugar in Java for the past three years:

District.	1906.	1907.	1908.	District.	1906.	1907.	1908.
	Tons.	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*
Cheribon	78,962	88,413	91,227	Soerabaya	243,532	286,296	274,157
Tegal	62,550	68,835	72,854	Kediri	141,839	156,217	165,570
Pekalongan	49,997	52,075	58,192	Madioen	40,834	49,941	49.885
Samarang Japara	84,563	94,068	111,881	Pasoeroean Probolingo	160,288	186,459	182,694
Soerakarta	80,240	86,487	101,192	Besoeki	59,132	67,720	66,000
Djocjakarta	89,562	103,841	116,376				
Banjoemas	33,710	33,873	37,991	Total	1,133,525	1,282,705	1,338,455
Bagelan	8,316	8,490	10,436				

With the exception of the Soerabaya, Pasoeroean-Probolingo, and Besoeki districts, there has been quite an increase in the cultivation of sugar for the past year, the total being considerably higher than for a number of years back. During the past year some 176 sugar mills have been in operation.

ALCOHOLIC LIQUORS.

DOMINICAN REPUBLIC.

GOOD MARKET FOR AMERICAN WINES, ETC., IN THE ISLAND.

Writing from Puerto Plata, Consul Ralph J. Totten says that the Dominican Republic, as is true of almost all Spanish-American countries, imports annually considerable quantities of wines, brandies, and liquors. The consul gives the following account of this trade:

These imports come from Spain, France, and Italy, the first named having by far the largest share of the business. Most of the medium and cheap grades come from Jerez de la Frontera. Wines are imported in casks and in bottles. The cask goods run from $1.20 to $3 per gallon, pay about 60 cents duty, 10 cents municipal tax, and retail here at from $3 to $5 per gallon. Case goods are of an almost unlimited variety, the more common of which are: Malaga, which costs $3.40 per dozen quarts, pays $5.65 duty and municipal tax, and retails at $1 per quart; Oloroso, which costs $4 per dozen, pays same duty and tax, and retails at $1.25 per quart; and Manzanillo, which costs $7.25 per dozen, pays same duty and tax, and retails at $1.50.

Italian wines are also quite popular, the best known being Chianti, which costs in Italy $3 per dozen pints, pays $3 duty and tax, and retails here at $1 per bottle.

From France are imported liqueurs, brandies, and champagne. The latter is especially popular. The ordinary grade costs about $18 per dozen quarts, pays $18.60 duty and municipal tax, and retails at $60 per dozen.

Neither the merchants nor the people seem to be prejudiced in favor of the product of any country, and I feel sure that if properly exploited there would be a ready market here for the cheaper American wines. This would especially apply to American champagnes and sparkling wines, which could probably be sold so as to retail here at from $36 to $42 per dozen. It would be well worth while for some of the American export houses to send a Spanish-speaking salesman to look into this matter. The business is here, and European houses are getting it because this territory is carefully worked by their traveling salesmen. In the last five months there have been only three representatives for American firms of all descriptions in this district, while German, French, and English houses have been represented by dozens. If it pays them, it would pay firms in the United States, who have better transportation facilities, cheaper freight rates, and are nearer.

CHILE.

MARKED OVERPRODUCTION OF WINES—PREVIOUS EXCESS YIELDS.

In reporting that there is an overproduction of wine in Chile, Consul Alfred A. Winslow, of Valparaiso, gives the following particulars:

Many of the wine vaults of the large producers are crowded with the surplus of the two past years. This comes largely from the increased number of bearing vines and decreased consumption owing to the hard times during the past eighteen months. The prices to the consumers remain about the same, which is owing to a strong combination among the principal wholesale dealers, who really control the trade in Chile. I am told many of the producers were compelled to sell their 1907 stock at less than cost of production in order to make room for the 1908 crop.

During 1907 the production of red wine in Chile amounted to 3,821,521 gallons, against 3,341,563 for 1906, showing a gain of 479,958 gallons for 1907. In 1907 the white wine produced amounted to 191,609 gallons, against 141,212 gallons for the year 1906.

The exports for 1907 amounted to 45,301 gallons, against 121,782 for the year 1906; with imports of 42,584 gallons of white wine and 57,637 gallons of red wine for 1907, against 35,360 gallons of white wine and 48,552 gallons of red wine for 1906. The duty on white and red wines is $4.38, United States gold, per dozen bottles and 43.8 cents per liter (liter=1.05 quarts) in other receptacles.

The production for 1908 was very heavy and there is still much complaint about overproduction, without any prospects of relief other than a more general exportation, which does not seem probable until the merits of Chilean wines are better known abroad. The climate and soil are well adapted to the cultivation of grapes, and much attention has been given this industry for many years with good results, until the present marked overproduction of wines. Most of the vineyards are on irrigated lands, and a good crop is assured.

CYPRUS.

WINE DEALERS ARE TRYING TO CULTIVATE THE AMERICAN MARKET.

Consul-General G. Bie Ravndal, of Beirut, forwards the following report of the production and export of wines in the island of Cyprus:

During the fiscal year ending March 31, 1908, 456 gallons of wine were exported from Cyprus to the United States, a new departure, which may or may not lead to further business. Cyprus wine is considered somewhat heady for ordinary use, and its value in commerce has been lessened by the flavor acquired from carrying it to port in tarred skins. Within recent years roads have been constructed through the grape districts, enabling the wine to be conveyed in barrels, resulting in a decided improvement in flavor. While the grapes are of fine quality, the primitive and unscientific methods still prevalent in wine making result in coarse and strong wines, which do not keep well. The exports of wine at present go mainly to Egypt, while the brandy made from the wine goes to England. During the fiscal year 1907-8, Cyprus exported 31,028 gallons of Commandaria wine and 931,644 gallons of other brands, of a total value of about $119,000.

FISHERY PRODUCTS.

UNITED KINGDOM.

EXCESSIVE NUMBER OF DOGFISH ON ENGLISH COAST.

Consul Joseph G. Stephens, of Plymouth, makes the following report on the difficulty of coping with the dogfish on the coast of Great Britain:

Dogfish continue to infest the southern and western fisheries in increasing numbers and do much damage. No remedy has been found, and it is evident that the fisheries are surely and rapidly being depleted by their activity. While there is a considerable consumption of dogfish in Plymouth and other large places in England, it is not at all in proportion to the number of fish. They have been sold for 1s. (24 cents) per score, and later they had to be given away for fertilizer. While the dogfish are in request, the fishermen can supply as much as the buyers can possibly handle, but as the big fishing plants on the east coast commence to operate there is not sufficient market for them at remunerative prices. Dogfish have been sold up to 1s. 9d. (42 cents) and lower than 6d. (12 cents) per score, but the latter price will not pay for the labor of catching. The person who can devise a way of ridding the waters of this plague without injury to the fisheries will confer a great boon to the industry.

SHETLAND HERRING FISHERIES.

STEAMERS ARE DRIVING THE SMALLER CRAFT FROM THE SEA.

Consul Maxwell Blake, of Dunfermline, forwards a clipping from the Daily Scotsman from which the following is noted relative to the fishing industry in Shetland waters:

The total catch during the past summer of herring in Shetland waters amounted to $1,800,600 as compared with $2,623,000, the value of the catch in 1907. Only a small part of these earnings remained in those islands, the greater part being earned and carried away by 947 English and Scotch fishing craft from 23 different ports; 662 were steamers as compared to 525 steamers out of 891 vessels in 1907 engaged in these fisheries. The poor fishermen of the islands are being driven out of business by companies who have enough wealth to operate the steamers.

There is talk of further improvements in Lerwick Harbor to meet the growing requirements of the port, which has become the great center for herring fisheries.

CANADA.

EXPENDITURE ON THE INDUSTRY—DECREASE IN THE CATCH.

Consul-General David F. Wilber, of Halifax, forwards a Nova Scotia newspaper clipping containing the report of the deputy minister of marine fisheries of Canada for the fiscal year ended March 31, 1908, from which the following extracts are taken:

The eastern seacoast of the maritime provinces, from the Bay of Fundy to the Straits of Belle Isle covers a distance of 5,600 miles. The salt-water inshore area covers over 1,500 square miles. The total fisheries expenditure for the year amounted to $956,196, subdivided as follows: Fisheries proper, $157,874; fish breeding, $235,660; fisheries-protection service, $225,280; miscellaneous expenditure, $171,267, and $156,114 distributed as fishing bounties. The total revenue from fishing licenses, fines, etc., during the same period in the different provinces was $90,686, including $10,000 received from the United States fishing fleet, as modus vivendi fees. The deep-sea fishermen of the maritime provinces received $156,114 as bounties on their catches for the season of 1907.

The whole value of the catch in local waters by Canadians, including fish products, seals, etc., during the season of 1907, including winter fishing of 1908 to March 31, was valued at $25,500,000, a falling off of three-quarters of a million as compared with 1906. The value of the Nova Scotia fisheries was $7,632,330, a decrease of $166,830. The quantity of fish used as bait in the season was valued at $518,022, and that of fish oil at $539,067. The value of the lobster fishery during the season was $4,084,122, an increase of $661,195 over 1906. Cod, halibut, smelts, clams, etc., also showed an increased value. The decrease in herring amounted to over $600,000.

During the season over 71,000 men were engaged in the Canadian fisheries and used equipment representing an aggregate capital of nearly $15,000,000. The lobster plant alone is valued at over $1,500,000, comprising the equipment of nearly 700 canneries, 217 of which are in Nova Scotia. The canneries placed on the market nearly 9,000,000 cans of the preserved crustacean, and about 1,000,000 pounds were disposed of alive or in a fresh state, both aggregating a value exceeding $4,000,000.

QUINUA IN ECUADOR.

MOUNTAIN CEREAL FOOD OF RESIDENTS OF THE ANDES.

Americans are seeking information with regard to the "quinua" grain of the Andes Mountains with the view to its possible importation into the United States. The plant grows at a high altitude and supplies cereal food in regions where other grain and potatoes will not thrive. Consul-General Herman R. Dietrich, of Guayaquil, furnishes the following information concerning its growth and use in Ecuador:

In this country quinua is cultivated to some extent in the valleys of the Andes, where the climate is cool, and at an elevation of

6,000 to 9,000 feet. There are two classes, called "yellow quinua" and "white quinua," which are marketed at the same price. In the Yaruqui Valley, near Quito, it appears to be most abundant, and it is reported that 100 tons may be obtained there yearly. It is said that about 20,000 pounds of this article may be bought in Quito monthly, and that by offering a small advance in price, a much larger quantity could be obtained in the provinces of Pichincha and Imbabura, which are situated in the inter-Andean valleys.

It is seldom that there is a failure of the quinua crop. This only occurs once in a number of years, when there is great scarcity of rain. The quinua when harvested and dried, and then stored in a perfectly dry place, will keep for about 1 year, after which it will lose more or less of its flavor. During the time it is kept in this dry state it retains its bitter qualities, for which reason it is not subject to the attack of insects as it would otherwise be. It is stated that the Indians hang the plant outside of their houses in the same manner as they do tobacco and bananas, but rarely keep it in this state longer than 3 months, although if kept thoroughly dry it can be kept as long as 6 months.

FOOD UTILIZATION—BOTANICAL NAME—MARKET PRICE.

The quinua is washed before cooking, which may be done by machinery, for the reason that the washing takes away a portion of the bitter element which it contains. As an article of food it is principally used by the Indians or the laboring class, who earn very small wages. By them it is cooked in an open pot and frequently in sufficient quantity to last the family for some time. In its cooked state it is again allowed to dry, and it is then an easy matter to preserve it for some weeks. The dishes prepared from it are: Soups; cakes with brown sugar added to them, called "panela;" and a drink called "chicha de quinua," made from a mixture of quinua and corn or barley.

Teodoro Wolf states in his Geography and Geology of Ecuador, which was published in 1892, that corn and quinua were the principal articles of food of the ancient Indians, and that the raising of the latter was more extensively engaged in by them than by the present inhabitants, on account of the recent introduction and development of other cereals.

As to the scientific name of the plant, Humboldt, a German naturalist, who spent several months exploring this country in 1802, called it *Quinua ecuadoria.* Mr. Wolf refers to it in his works on Ecuador as *Chenopodium quinua.* It is also a product of Colombia and Peru, where it likewise grows in the high valleys of the mountains. I do not think it is found to any extent in the other countries in South America.

The price usually paid for quinua in this country is from $3 to $5 United States currency per quintal of 46 kilos (101 pounds). The bulk of this article is marketed from June to October. As to the cost of shipping this product to San Francisco or New York, it may be stated that the freight rate from Quito to Panama is about $3 United States currency per quintal, with an additional expense of about 50 cents per quintal for packing.

PICKLED TEA OF INDIA.

PREPARATION AND CONSUMPTION IN BURMA AND SIAM.

The following information concerning pickled tea is furnished by Consul-General William H. Michael, of Calcutta, at the request of an American tea merchant:

Pickled tea is manufactured only in Burma, the Shan States, and some of the hills lying between Burma and Assam in India, and nearly all of the tea produced there is used in the manufacture of pickled tea, which is called in the Burmese vernacular "letpetso." In 1907 Burma manufactured 501,868 pounds of this article and made only 4,175 pounds of black tea, which they call "leaf tea." The process of manufacture is understood to be as follows:

The leaves are first thrown into boiling water and allowed to remain therein for a short time, or until they become soft. They are then taken out, rolled by hand on mats, and allowed to cool. The process which follows consists in ramming with a wooden rammer the leaves down tight into the internode of a bamboo (the wabo). A stopper is then made of jack or guava leaves, and the bamboos thus charged are kept in the shade for a couple of days, with the stoppered ends downward to allow any water there may be within to drain off. The bamboos are not quite filled up to the top with letpet, and in the space thus left ashes mixed with a little water are now filled in to prevent insects getting to the tea. The bamboos are then buried underground till the letpet has matured, when it is ready for sale. If not buried, the letpet becomes black and spoiled. To be good, it should be yellowish in color. It is carried to market for sale in bamboo baskets of open wickerwork lined with leaves. The tea is taken out of the bamboos, filled into the baskets, and pressed down tight so as to prevent air injuring it.

The foregoing is the method in vogue west of the Irrawaddy; east of that river the method seems to consist in steaming the leaf and then rolling by hand. After this the leaves are allowed to cool and are then deposited in a pit lined with planks or bamboo matting and covered over and pressed down by heavy weights. The pit is not opened till a purchaser turns up to buy the whole pit full, but when opened the letpet tea is removed in bamboo crates.

A GOVERNMENT ACCOUNT.

Outside of Burma and the Shan States pickled tea is made in Bangkok, where the same method of manufacture is followed. There it is also eaten, and rarely used in making a drink. In referring to pickled tea Sir George Watt, in his Commercial Products of India, says:

> Accounts given of the manufacture of mieng or lao tea in Bangkok do not differ in any material sense from the practice in Burma. These may therefore be described as siloed teas, and their chief peculiarity may be said to be that they are eaten as a pickled vegetable and only rarely used as a beverage. One authority says the leaves are elliptic, oblong, and serrated like the Chinese plant, and the Burmese, not following the practice of other nations, designate the latter by the native name of their own plant, lap'het. There is little doubt, therefore, but that it is a genuine tea, and most probably a native of the country. The Burmese eat the leaf prepared with oil and garlic, and never use the

infusion as they do that of Chinese tea, which they call lap'het-re, or tea water. In Upper Burma and the Shan States a good deal of this tea is consumed as a drink, for which purpose it is sold in a dry state. It is prepared by boiling it in an earthen kettle and is drunk with salt. The greater bulk, however, is sold by the Mandalay brokers to merchants in Lower Burma, where it is largely consumed in the solid. The leaves are soaked in oil, a little garlic and dried fish, etc., added, and the concoction thus formed is eaten and considered a great luxury. Besides being regarded as a dainty, the "leppett" is a traditional food among Burmans. At the important junctures of life, such as birth, initiation into the church, marriage, and death, "leppett" plays an important part, and no ceremony is complete without the consumption of that article. The tea remains in the same basket from the time it is bought at the gardens until it is sold by the merchant to the actual consumer.

GERMANY'S SALT PRODUCTION.

ONLY TWO PER CENT OF AMOUNT CONSUMED IS IMPORTED.

Consul-General A. M. Thackara, of Berlin, sends the following report on the German production, cost, and consumption of salt:

Salt in Germany is procured both from mines and by evaporation. There is about twice as much of the mined as of the evaporated salt. While much good table salt is mined in the Magdeburg district, by far the greater part is procured by evaporation. This evaporated salt is derived both from the natural brine and from the artificial brine made by pumping water into the salt beds and again pumped out into large pans or vats. From these the water is evaporated generally by means of steam pipes passing beneath the bottoms of the vats. Evaporation in open vats is very little in use in Germany, and the vacuum process is practically unknown.

Practically all the table salt consumed in Germany is subject to an internal-revenue tax of $2.85 per 100 kilos (220 pounds). Exclusive of this tax the wholesale price at which table salt sells in Germany varies from $5.15 per metric ton (2,240 pounds) in localities near the most productive mines to $10.65 in localities remote from the source of supply.

Salt is procured in almost every part of the Empire. Prussia leads, and the provinces of Saxony and Hanover yield nine-tenths of Prussia's total production, and about one-half of that of the whole of Germany. Outside of Prussia the German States in order of the amount of salt produced are Wurtemberg, Anhalt, Braunschweig, and Alsace-Lorraine. Only about 2 per cent of the salt consumed is imported, principally from Great Britain, Portugal, and Holland. Germany uses annually about 1,500,000 metric tons of salt, which amounts to about 50 pounds per capita. Of table salt about 17½ pounds per capita are consumed.

AGRICULTURE.

FOREIGN CROP CONDITIONS.

CHINA.

PRODUCTS AND POPULATION OF THE PROVINCE OF SHENGKING.

The following report covering the agricultural conditions and possibilities of Manchuria is furnished by Vice-Consul-General Frederick D. Cloud, of Mukden:

Reports from all quarters indicate that the year 1908 has been an unusually prosperous one for Manchurian farmers. Especially is this true as regards the farmers of the province of Shengking, where the crop yield is stated to be 20 per cent greater than the average annual yield. The general range of prices for all farm products is also somewhat above the average.

The government of this province has furnished a few statistics, which I have converted into American values throughout this report, enlarged from independent sources of information, and arranged in a manner that may be of some value to those interested in the present and future of Manchuria as a market for foreign imports. The Manchurian government is making a serious effort to inaugurate a system for the compilation of vital statistics of all kinds, and the following statistics are based on data furnished by its new bureau of statistics.

The total population of the province of Shengking (Fengtien) is 10,312,241, of which number 2,520,145 are engaged in agriculture.

ACREAGE CULTIVATED AND LAND TENURE.

The total area of the province under cultivation is 4,333,333 acres—that is, there are 1.72 acres of tilled land per capita of the farming population. This of course does not mean that the average-sized farm contains only 1.72 acres, for it is well known that farming is carried on, in many cases, by the family or clan, which may number from 5 to 50 people, who work together on one common farm, sharing the proceeds according to their own private arrangements. Such a farm might, and often does, comprise 100 or more acres. No accurate data is available as to the average size of a Southern Manchurian farm, but it is not far wrong to put it at 12 acres. This would make the average rural family number 7 persons, which is approximately correct.

Freeholding is the rule throughout the Province, but there is also considerable tenancy, the land being leased from (1) the Government, (2) Manchu princes, and (3) Lama priests. In the case of government lands, the terms of lease are such as to make the tenants virtual owners, the leases being in perpetuity and the tenant having to pay only a nominal annual rental. To this class of lands belong the large tracts of "banner land," set aside in times gone by for the use and maintenance of soldiers' families. These soldiers belonged to regiments or corps known as "banner corps," hence the term "banner land." Likewise, in the case of large tracts owned by the Manchu nobility, leases are given in perpetuity, but for this class of land the tenant must pay a higher rental than for government land. Land owned by the Lama priesthood, of which there is a considerable amount scattered throughout the province, is leased on long or short terms, and the rental paid therefor is usually the highest paid for any land. The rental on Lama land ranges from 6 to 15 bushels (1 bushel equals 60 pounds) of beans to the acre, which at present prices and exchange would amount to $3.30 to $8.25 per acre.

AGRICULTURAL PRODUCTS.

The following table shows the principal varieties of grain produced, together with beans, and the value and production per acre of the different crops:

Crop.	Yield per acre.	Value per acre.	Value per bushel of 60 pounds.
	Bushels.		*Cents.*
Kaoliang	35.3	$11.95	34
Beans	31.6	17.35	55
Wheat	23.3	16.49	71
Maize	23.3	7.89	34
Barley	28.0	12.48	44
Millet	20.3	9.31	44

The following table indicates the approximate acreage devoted to each crop, together with the total amount produced of each and the approximate total value thereof:

Crop.	Acreage per annum.	Total production.	Total value per annum.
	Acres.	*Bushels.*	
Kaoliang	2,166,666	76,526,643	$26,019,059
Beans	1,800,000	40,716,000	22,393,800
Millet	433,333	9,099,993	4,003,997
Wheat, barley, maize, tobacco, garden truck, etc	433,334	....	3,900,006
Total	4,333,333	....	56,316,862

KAOLIANG AND SOY BEANS.

As shown by the table, kaoliang (Sorghum vulgare, Barbadoes millet) is the most extensively grown and the most valuable crop, while the soy bean is second. Kaoliang is the food staple of Manchuria, and bears the same relative value in the food economy of Manchurians that rice does with the southern Chinese, or wheat in the United States. Its uses are manifold. Besides furnishing the greater portion of the Manchurian's daily food, it supplies an alcoholic drink, thatching for houses and barns, matting for summer sheds and winter floors, windbreaks to shield the farmer's household from the icy blasts of winter, and fuel to cook his food and warm his house. No part of the kaoliang plant is allowed to go to waste. Even the stubble and roots are carefully pulled up, dried, and put away for fuel. The green blades are gathered just before the grain is fully ripe, tied in bundles, and stored for winter fodder for the donkeys and cattle.

A kaoliang field after the crop has been harvested is absolutely bare, there being nothing left of the vegetation to reenter the soil, and herein lies the chief and practically the only objection to the continuous cropping of koaliang. It requires much from the soil, but gives back nothing in return.

The soy bean, on the other hand, is a good soil fertilizer, and is extensively grown throughout the province, especially in the rich valley of the Liao River. The bean is the greatest of all export crops from Manchuria, and can always be relied upon to afford the farmer ready cash. Bean oil is used throughout China for culinary purposes, being employed as lard is used in American households, while the residue, after the oil has been expressed, bean cake, is exported mostly to Japan, where it is used for fertilizer. The exports of bean cake from China during 1907 amounted to 278,801 tons valued at $7,300,000, or $26.18 per ton of 2,000 pounds. During the same period there were in addition 89,124 tons of beans exported, valued at 72,560,790, or at the rate of $28.73 per ton. The total value of China's bean crop exports for the year 1907 was, therefore, $9,860,790, the greater part of which was produced in southern Manchuria.

Manchuria has a great advantage over most other agricultural regions, in that the soy bean can be grown most successfully throughout the entire region, from Dalny in the south to Harbin in the north. In the United States, on the other hand, this crop is not grown with much success outside of what is known as the cotton belt.

MILLET AND WHEAT.

The crop that ranks third in importance in the province is millet, of which there are several varieties. The best of these varieties is known as Japanese millet, and is grown mostly for human food. It is a hardy crop and highly valued by the farmer for home consumption, but little is produced for foreign export. The annual crop is valued at about $4,000,000.

The wheat crop of the province has not as yet become large, but is important in view of the growing tendency among all classes, to replace the native cereal foods with wheaten cakes and bread. Thus far but little attention has been devoted to wheat growing, but with the advent of modern flour mills in Manchuria, of which there are several in operation and more being constructed, the native farmer is devoting his thought to wheat production. There is no reason, as far as soil and climate are concerned, why the Province of Shengking should not produce vastly more than enough wheat for the consumption of its entire population. At present the native farmer appears to know practically nothing about the proper selection of seed or the proper methods of cropping, harvesting, and marketing of wheat. According to the complaints of the flour mills now in operation, the varieties of wheat grown and the quality of the berries are very fair and would make a good medium-grade flour if the farmer would only care for his crop in the right way. But this, apparently, he will not do, for when the wheat comes to the mill it is either musty or weather bleached or foul, from which it is impossible to make a good grade of flour. Therefore, until the Manchurian farmer gives more intelligent attention to the seeding, harvesting, and marketing of his crop, wheat growing will remain practically where it is, and as a crop it will continue to be of minor importance.

MAIZE AND SUGAR BEET.

Corn is grown to some extent throughout the province, the Liao Valley, to the east of Liaoyang, affording perhaps the greatest area devoted to this crop. At present the crop is of but little value, owing to defective methods of seed selection, planting, and cultivation. The soil and the climate, however, of southern Manchuria, especially throughout the fertile Liao Valley, is naturally adapted to the abundant production of Indian corn. The rich alluvial soil, together with the long, hot summer days and warm nights, combined with copious showers, constitute ideal conditions for the successful production of corn. With good seed and intelligent cultivation, there is little doubt but that Indian corn could be made a more profitable crop to the farmer of southern Manchuria than is either koaliang or the soy bean.

The loose, loamy soils of Manchuria are particularly well adapted to the growing of all kinds of root crops, and are especially favorable for sugar-beet production. The intense summer sunshine not only gives an abundant yield of roots but produces a high percentage of sugar. Tests made last season at the local experiment farm showed amounts of sugar ranging from 14 to 18 per cent.

A large German beet-sugar concern recently sent an expert from Germany to look into the possibilities of the beet-sugar industry in Manchuria. According to my information, his report was most favorable, but whether or not the company contemplates the establishment of a factory in Manchuria is unknown. At Harbin, however, such a factory is being installed.

In view of the rapidly growing demand throughout China for refined sugar, there are undoubtedly great possibilities in the beet-sugar industry in Manchuria.

FRUIT PRODUCTION.

There are but a few varieties of fruit grown in the Province, among which the pear, grape, and persimmon are the most valuable. The pears are hard and watery, and while they are good keepers, lasting from season to season, they are not a good table pear. Grapes are grown extensively and are the most satisfactory of all the Manchurian fruits. There is practically but one variety of this fruit, which resembles the California red wine grape. It is not a first-class table grape, but as it can be kept through the winter and until spring, it is, as before stated, the most satisfactory of all the Manchurian fruits. The large red persimmon is also grown and is much prized by the Chinese. Because of its abundance it is the cheapest of all the fruits, and constitutes almost the sole fruit diet of the poor classes. Besides the fruits mentioned, there are apples, peaches, and plums of poor quality and of no great abundance. Apricots, also of inferior quality, are scatteringly grown among the hills in the southern part of the Province.

The inhabitants of Manchuria are exceedingly fond of fruit; but, curiously enough, they seem to take little or no interest in fruit growing.

There is no doubt but that great quantities of excellent fruits could be grown in various parts of the Province if only intelligent methods of selection, budding, and cultivation were employed. The striking success which has followed the efforts of American missionaries in Shantung Province to improve native varieties of fruit by introducing scions from American fruits is worthy of emulation in Manchuria. The Chefoo apples, pears, and grapes are now sold in nearly every treaty port in China and command prices second only to fruits imported from the United States.

LIVE STOCK AND FARM LABOR.

The following table shows the principal kinds of live stock in the Province, the approximate number and total values of each kind, and the average value per head:

Kind.	Number.	Value.	Average value per head.
Horses	124,008	$1,525,298	$12.30
Cattle	62,060	508,892	8.20
Mules	124,242	1,780,844	14.33
Hogs	1,925,260	4,736,140	2.46
Total	2,235,570	8,551,174	....

In addition to those mentioned there are said to be upward of 600,000 head of sheep and goats, valued at about $1,026,148; so that the total value of the live stock of the Province is $9,577,322. This is indeed a nominal figure in comparison to what it might be with consistent and intelligent breeding.

It is a well-known fact that the Manchurian farmer, just as with fruits and grains, takes no pains and gives little thought to the breeding of his domestic animals. His hogs have the run of the farm and subsist, as best they may, from kitchen and other refuse. The result is exactly what might be expected, a loose-jointed beast, compared to which the aboriginal "razorback" of the Ozark Mountains is a well-bred animal. Yet, as shown by the above table, the province produces annually 1,925,000 head of these animals.

Scarcely any greater attention is bestowed upon the breeding of cattle or horses. Indeed, a vast majority of the horses and cattle of the province are brought down year by year from the plains of Mongolia, where the only occupation of the people is stock raising, and while the Mongolian pony is an excellent work animal he is small and poorly bred.

In animal breeding, as in general farming, a little intelligent selection and care would greatly increase the farmer's net profits.

According to information supplied by the bureau of statistics, before referred to, the average wage paid to farm hands ranges from 12½ to 17 cents per day, or from $3.75 to $5 per month. Wages vary, however, in different parts of the province, and also in the different seasons. For instance, during the harvest season transient labor from Shantung is paid as much as 28 cents per day, while at other seasons labor may be had for 8 to 10 cents per day. Most of the farm labor of Manchuria comes each year from Shantung and Honan, and with the approach of winter returns to its native provinces.

The Manchurian government has recently offered to grant free transportation to all the people of Shantung, Honan, and other provinces who were willing to migrate to the three eastern provinces and cultivate the untilled lands of Manchuria.

TRANSPORTATION OF AGRICULTURAL PRODUCTS.

The cost of transporting agricultural products is the chief item of expense in the growing and marketing of a Manchurian farmer's crops, and were it not for the fact that he exchanges only a small part of his products for cash, that which is not required for home consumption, he could scarcely make a living on the average Manchurian farm solely on account of the condition of the country roads. The only means of transportation between interior trade marts for farm products and merchandise as well is the two-wheeled Manchurian cart. This vehicle, capable of carrying a maximum load of about 1,600 pounds, is drawn by 4 to 8 ponies or mules. This method of transport is most costly to the farmer not because of the kind of vehicle used, but because of the almost impassable condition of the roads. The Manchurian cart is indeed the only kind of vehicle that could navigate the deep-rutted, quagmire-like roads which everywhere prevail throughout almost the entire year. The only season of passable roads is during the winter when the mud is frozen to a depth of several feet. It is then that the crops are moved and most of the year's teaming is done.

It is obvious, therefore, that until Manchuria has better roads for the transport of its products it can not hope to become any considerable factor in commercial agriculture. The best that it may logically hope to do under present conditions is to produce a little more than enough to supply the demand of its own people. With good roads and better transport facilities, however, new markets would be reached, the cost of production and marketing would be reduced by more than one-half, production would be stimulated, and the land of the Manchu would enter upon an era of prosperity and progress scarcely second to that enjoyed by the inhabitants of the trans-Mississippi plains during the past thirty years. The making of good roads must constitute one of the first steps to be taken if Manchuria is to have either prosperity or progress. The Manchurian farmer has undoubtedly been greatly benefited by the opening of the south Manchuria and the Chinese imperial railways, but while railway communication is indispensable, good country roads are also a vitally essential adjunct to the economic welfare of an agricultural community.

LAND VALUES AND TAXATION.

The average value of agricultural lands, according to the statistics referred to, ranges from $8.40 to $12.30 per acre for first-class land, and for second-class from $5 to $7.50 per acre. The general average value per acre, therefore, would be $8.30. This appears to be an exceedingly low average, but it must be remembered that the values quoted are in American currency, $1 of which is equal, at the present rate of exchange, to $2.50 of Manchurian currency, and that the cost of living as between the inhabitants of Manchuria and Americans is roughly in the ratio of 10 to 1—i. e., where it costs the American the equivalent of $10 silver (Mexican) to live, the Manchurian will get along, in his way, on $1 silver.

In the matter of taxation it is impossible, from the meager information obtainable, to make a statement which would even approximate the facts. There are land taxes, grain taxes, a salt tax, an opium tax, a tax per head on beef cattle and sheep, a butcher's tax, an export tax, police tax, a school tax., etc. Certain of these taxes—the salt tax, for instance—are fairly uniform throughout the province, but in the main they vary with each magistracy, according to the needs of the districts.

AGRICULTURAL DEVELOPMENT IN MANCHURIA.

Prof. Edward C. Parker, of the University of Minnesota, who was recently employed by the Shungking (Fengtien) government to establish at Mukden an Agricultural College and Experiment Station, writing on the subject of agricultural development in Manchuria, says:

It is the opinion of the writer that the chief problems of agricultural development in Manchuria at the present time are economic, social, and political problems, rather than scientific problems relative to the stimulation of greater productiveness in the soil. The vast acres of uncultivated land in the north are capable of producing a surplus crop for export, even with crude methods of soil tillage, if transportation facilities could be developed to bring the farmer in touch with world markets. The agricultural problem of Manchuria is not so much the problem of making two blades of grass grow where one grew before as to change the existing economic and social conditions of farm life into an advanced condition of commercial agriculture in which the farmer can produce a surplus of food above local demands and find a ready cash market for that surplus. While improved methods of agriculture are undoubtedly necessary if the Manchurian farmer is to produce a large surplus for export, it is still more necessary that there be a market and a means for reaching that market with the surplus crop.

IMPORTANCE OF GOOD ROADS.

If good roads could connect with railways and waterways in Manchuria, and if capital could organize the facilities for storing and shipping staple agricultural products, thus bringing relatively high cash prices for agricultural products into every community, there is little doubt but that Manchuria would produce a large surplus of crop for export, and in striving to produce a surplus the farmer would be quickened and fully awake to the advantages of improved methods of agriculture. The Manchurian farmer is not so much in need of the agricultural teachings of European and American applied science as he is in need of the far-sighted genius of such men as James J. Hill in the United States and Shaughnessy in Canada, who built the steel paths of commerce into the fertile fields of North America and were content to wait for dividends until the settlers came in and opened the soil. To-day every farming community in America is in touch with the world markets, and, being in possession of the markets, the agricultural problem of the United States is to increase production by the application of science to the art of agriculture. One hundred years ago the American farmer produced his food, fuel, and clothing on the land and exchanged very little of his crop for cash. Then, as transportation facilities developed and the inventive genius of the American applied mechanical principles to agriculture, the old system of "produce-and-consume-what-you-produce" farming passed away and crop products are now exchanged for cash, and the farmer buys coal for fuel and factory goods for his clothes. The Manchurian farmer of to-day is in a stage more remote from the highest modern civilization than the American farmer of one hundred years ago, and this fact must be realized in considering any government policy for the improvement of agriculture.

DEMONSTRATION IS NECESSARY.

The Chinese character seems to lend itself to the adoption of new methods from demonstration rather than from reading or oral teaching, and thus in formulating plans for improving conditions in Manchuria the work of demonstration should have an important place. Government demonstration and experiment farms should be established in all the important regions of Manchuria and efforts be made to interest the farmers in simple machines such as plows and seed drills, and in better methods of cultivation in anticipation of the time when better markets for the surplus crops of Manchuria may develop. Such machines as the two-horse American plow are within the reach of the common people, and I am convinced that the people would be interested in such machines if they had the opportunity of witnessing their work.

The potential wealth of Manchuria lies to a far greater extent in the soil than in either timber or minerals, and should Manchuria ever be developed to its full possibilities its products both in quantity and quality would be as famous in the world's markets as the wheat of Canada and the cotton, corn, and beef of the United States. Manchuria is a country of tremendous agricultural possibilities.

BRITISH INDIA.

TO REGULATE THE WHEAT CROP THROUGH FUTURES.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the losses incurred in housing and handling the Indian wheat crop, and the hopes entertained of regulating the same by futures:

The subject of grain futures is for the first time in the history of India occupying the minds of those interested to any considerable extent in wheat. The immense wheat crops of North and Northwest India have already proved too large for the handling facilities of Karachi, and of the railroads as well, when moved almost in mass to market. The inconvenience and the losses that result from the impossibility of properly housing wheat awaiting shipment have suggested the adoption of some method of distributing exports over a longer period. It is urged that the formation of a market in wheat options would obviate the present conditions and would provide for the handling of the vastly increased crops of wheat that are sure to come as the result of the triple irrigation schemes, soon to be realized—the Punjab, the Indus Weir, and the Said-Sagar.

Just how the buying of futures in wheat is going to take care of the wheat held back from market to accommodate speculators is not pointed out. It is perfectly clear, however, that the only method possible is by the erection of elevator warehouses on the lines of railroads tributary to Karachi and at Karachi. With a system of elevators, the wheat of India could be put in shape to hold for transportation and for market, and, incidentally, for "wheat futures." But the first thing to be considered is the elevator. And this introduces the subject to which attention has been frequently called in my reports, that American builders of elevators should take cognizance of the situation in India and get into the field before others occupy it to their exclusion.

ENORMOUS CROP EXPECTED.

From a newspaper clipping forwarded by Consul Nathaniel B. Stewart, of Madras, it is noted that, according to careful estimates, the wheat crop of India for 1908-9 will be a record one. In the British provinces, which include about 84 per cent of the total wheat fields, the acreage is 27,169,700 as compared with 15,665,200 acres in the preceding year, and 22,664,500 acres, the average acreage for the five preceding years. The consul comments that the big export trade which this large wheat crop will create should increase the importation of manufactured goods.

TURKEY.

TOBACCO, COTTON, OLIVES, NUTS, COCOONS AND SILK, AND CEREALS.

The following summary concerning the conditions and output of the past season's crops of the Turkish Empire has been furnished by Vice-Consul-General Oscar S. Heizer, of Constantinople, from a bulletin published by the French chamber of commerce at that port:

The returns from Uskup indicate a satisfactory tobacco crop both in yield and in quality. At Xanthi the tobacco crop was bought up almost entirely by local merchants at very high prices, although the leaf left much to be desired as to quality owing to a disease called "damar" (veins). The returns from Trebizond estimate the tobacco crop of the province as follows: Platana, 5,473,000 pounds, against 3,968,000 pounds in 1907; Trebizond, 1,576,300 pounds, against 881,800 pounds in 1907.

Adana returns indicate that the crop of cotton known as "yerly" (local) is progressing satisfactorily and that the yield will equal that of 1907, 70,000 bales, while the crop known as "yiane" will reach from 5,000 to 6,000 bales, against 2,300 bales in 1907. Advices from Aleppo say that the cotton crop will be reduced from 12,000 bales in 1907 to 1,000 bales in 1908, owing to the devastation by the locusts in the Idlib district.

OLIVES, FIGS, RAISINS, AND NUTS.

It is estimated that the total olive-oil crop of Mytilene will be only one-half that of 1907. From the olive groves of Aivaly and Edremid barely an average crop is expected. The olive crop of Jaffa is very good.

At Aidin the weather was favorable for the gathering of figs and the new raisin crop. The fig crop is said to be inferior in every way to that of 1907, while the raisin crop is considered a good average.

Hazelnuts have just reached the Trebizond market, and the yield for the province is estimated as follows: Kerassund, 29,928,000 pounds; Trebizond, 18,705,000 pounds; Ordou, 8,729,000 pounds; total, 57,362,000 pounds.

Nothing has occurred to damage the Aintab pistachio crop, and the result will be double that of 1907. The new crop is estimated at 750,000 pounds.

Returns from Moussoul indicate a shortage in the gallnut crop.

COCOONS AND SILK.

The total production of fresh cocoons in the Adrianople province is estimated at 2,555,300 pounds, against 3,124,000 pounds the previous season, but this shortage is counterbalanced by the excellent quality and the exceptional yield of cocoons. The silk-cocooon harvest of Adalia is over and it reached 66,140 pounds. The result of the silk yield of Beirut is 20 per cent less than in 1907.

In Adrianople the transactions in fresh cocoons have given great animation to the market, which opened at 22.4 cents per pound. Under advices from abroad the price rose to 28 cents. The average sales price works out 24.8 to 25¼ cents per pound, as compared with 34.4 and 35.1 cents last year. The prices of Adabazar silk cocoons have varied from 25.4 to 30.9 cents per pound.

The high prices paid in Europe for this season's silk cocoons have had an unfavorable result on the Broussa market, where speculators have been buying cocoons at 30 to 34 cents per pound. These dealings of small speculators who are numerous, have paralyzed the spinners, who can not meet their orders for European markets.

YIELDS OF CEREALS.

The cereal crops of Adrianople show an excess of 50 per cent in wheat and a still larger increase in barley, as compared with 1907. Although corn was sown in larger quantities than in 1907, the crop will be only an average one, the ripening not having been favorable. Oats, millet, and other seeds sown in the spring give, in general, satisfactory results. The cultivation of millet, however, in 1908 was of no account. For Saloniki the harvest is estimated at less than an average one, but large enough for local consumption, and there may be even a small quantity for export. From Uskup the crops of wheat, barley, rye, and oats are reported as very mediocre. From Monastir the corn crop is reported good. The yield, of course, was much less than before the troubles, but none the less satisfactory in view of the restricted cultivation.

The arrival of cereal crops at Eski Chehir was recorded about the middle of September, and they continued to come in slowly on account of the shortness of the crops and a desire to speculate owing to the rise in prices. The quality of

the cereals is equal to that of 1907, although the quantity is much less. The first wheat and barley arriving at Ouchak gives promise of superior quality to that of last year, and the quantity will also be greater.

At Adalia the arrival of wheat from the plains has commenced, and the quality is good. The total crop is estimated at 1,135,000 bushels. From Adana the sesame crop is reported slightly greater than in the previous year, viz, 12,727,200 pounds to 14,141,000 pounds, as compared with 11,318,000 pounds in 1907. A great quantity of sesame seed was destroyed by the heavy March rains, but that which germinated gave good results. From Aintab the grain harvest is reported 20 per cent less than in 1907.

At Jaffa the barley crop of Ghazza is estimated at 2,497,200 bushels, of which 1,929,600 bushels are intended for export. Advices from Haiffa say that the crops of both Syria and Palestine are good and will exceed those of 1907. Estimates at Beirut report that the general expectation has not been realized in the plains of Hauran, the results for 1908 not exceeding those of an average year. From Trebizond it is said that, according to the farmers, the crop of beans is less in quantity than that of 1907, but superior in quality. At Erzerum the harvest and thrashing have taken place under favorable conditions. The crops were relatively satisfactory and promised to be in excess of those of 1907. From Bagdad the returns say that the harvest was a good one, although the crops in the fields in the neighborhood of that city were partly destroyed by floods. From Bassorah accounts of the crops are, in general, good, although they are 30 per cent less than those of 1907, which, however, was an exceptional year. In the region of Karoun (Persian coast) the crops were a complete failure for lack of rain. The prospects for the date crop are very good.

RUSSIA.

YIELDS FOR LAST YEAR COMPARED WITH PREVIOUS SEASONS.

Consul John H. Grout, of Odessa, sends the following report on the crop of 1908 for the Empire of Russia, with comparisons for previous years:

In the following statement are given the quantities in tons (2,000 pounds) of the grains and potatoes produced in Russia in 1907 and 1908, also the average annual quantities produced for the five years from 1902 to 1907:

Description.	1902 to 1906.	1907.	1908.
	Tons.	*Tons.*	*Tons.*
Winter rye	23,221,000	21,979,800	20,456,000
Winter wheat	6,492,600	4,842,000	4,410,000
Spring rye	469,800	572,400	378,000
Spring wheat	11,723,400	10,431,000	12,607,200
Spelt	284,400	127,800	187,200
Barley	8,017,200	8,456,400	9,041,400
Buckwheat	1,135,800	1,119,600	1,094,400
Millet	2,248,200	2,529,000	2,483,600
Maize	1,283,400	1,420,200	1,711,800
Peas	741,600	720,000	716,400
Lentils	208,800	207,000	241,200
Beans	75,600	77,400	77,400
Oats	14,398,200	14,470,200	15,083,600
Potatoes	28,942,200	31,458,600	32,376,600

It will be seen that the winter grain crops gave quite a considerable shortage, both as compared with the year 1907, or with the quinquennium, 1903 to 1907. This was more than made good by the spring-sown crops, so that the total exceeded the returns for 1907 and also the average crop for the five years 1903 to 1907. Potatoes were formerly little appreciated by the Russians, and were cultivated principally by German settlers, Finnish tribes, and the Polanders.

TRANSVAAL.

FUTURE IMPORTANCE OF THE CULTIVATION OF CORN.

Consul Edwin N. Gunsaulus, of Johannesburg, transmits the following report prepared upon request of an American agricultural college on the cultivation of corn in the Transvaal:

Owing to the absence of statistics, the area of land given to the cultivation of corn in the Transvaal is unknown. However, corn is the staple crop, and is grown on every occupied farm in the country. There are 11,679 registered farms in the Transvaal with an average area of 5,000 acres. Of these about 6,000 are occupied, and the area planted to corn on these farms varies from a few acres to 4,000 acres. An average area of 10 acres per farm would make 60,000 acres, which may be taken as a reasonable estimate for the whole country. A considerable quantity is also grown on small patches of ground by the Kaffirs. Although this is a small acreage, considering the available area, the cultivation of corn will in the future become the most important industry in the country.

YIELD PER ACRE—VARIETIES OF SEED.

The average yield per acre of corn is not definitely known, but is approximately 4 muids (muid=200 pounds) of shelled grain. The poorer class of Boer and the Kaffir grow only about 1½ to 2 muids per acre, the best farmers 8 to 10 muids on unmanured land. On land well manured the previous year for potatoes an average of 15, 18, and 20 muids have been recorded. On very rich and heavily manured lands, at low altitudes and in a subtropical climate, a yield of 25½ muids per acre has been obtained.

The greater portion of the crop is consumed within the country as food by laborers in the mines. It is not sold by the bushel, but by the muid, equal to 200 pounds, and brings $2 to $2.50 per muid. The cost of production is estimated to range from 95 cents to $1.65 per muid.

Thus far 61 varieties of corn have been introduced and tested. Both flints and dents are successfully grown; "hickory king" is the favorite white dent, especially as this variety is preferred for food. Considerable quantities of 8-row yellow flint are grown. The department of agriculture is active in its cooperation with the farmers in introducing the best varieties and experimenting in methods of planting and cultivation.

CLIMATE.

The climate of the Transvaal is suitable for corn growing. Over a considerable area the climate is warm temperate, with a rainfall of 25 to 35 inches, falling chiefly during the summer months from October to March. The winters are cool and nearly rainless from April to September, inclusive. The nights are invariably cool on the high plateau, even in the hottest summers. Early autumn frosts sometimes catch the late corn if not ripe before the end of March. Spring frosts sometimes fall as late as the first week of October, and then injure the early planted corn.

As there is little or no rain after the corn matures, the crop is left standing in the field to ripen. The frosts are not severe enough to injure the grain after it is ripe. On the largest corn farm in the

Transvaal harvesting was not completed this year until the week that planting the new crop commenced.

SOILS—PLANTING AND HARVESTING METHODS.

The soils are on the average poor in quality, usually lacking in lime. Fertilizers are sparingly used, barnyard manure being scarce, as cattle droppings are used for fuel. The distance from the coast, 400 to 500 miles, makes transportation of artificial fertilizer too expensive. Potato growers find it advantageous to grow corn for two years after manuring for potatoes, and get excellent crops as a result. It remains to be demonstrated whether it will pay to manure directly for the corn crop.

The old Boer method of planting by dropping the seed by hand into furrows is rapidly giving way to the use of American check-row and drill planters.

During harvest time natives are employed to pick the ears into bags, leaving the stalks standing in the fields. There is one large steam thrasher in use here, which travels through the fields husking, shelling, winnowing, and bagging the corn, the ears being collected by a gang of 50 boys who walk ahead of the machine.

BRAZIL.

SUBSIDIES GRANTED BY THE GOVERNMENT TO WHEAT GROWERS.

The following information concerning a law passed by the Brazilian Congress authorizing the President to grant certain subsidies to wheat growers and millers in Brazil is furnished by Consul-General George E. Anderson, of Rio de Janeiro:

Notwithstanding the unsatisfactory results of the expert and state experiments in wheat growing, conducted in several parts of the Republic during the last few years, a good many Brazilian publicists have insisted that as wheat growing was once conducted successfully in Brazil—so successfully, indeed, at one time that wheat was exported—it could be carried on successfully again if proper encouragement were to be had. This feeling has led to legislation representing the somewhat unusual policy of granting a subsidy for the production of a world staple.

Under the authority contained in the budget law of the Congress which has just adjourned President Penna has issued his decree fixing these bounties as follows:

For syndicates organized for the purpose of growing wheat there will be paid a bounty of 15,000 milreis ($4,500) per annum for five years, provided not less than 200 hectares (494.2 acres) are planted and cultivated under the direction of a competent wheat-growing expert. To each syndicate a further bounty or subsidy of the same amount will be paid for the establishment and maintenance of a mill for the grinding of at least 1,400 bushels of wheat of the syndicate's own crop.

Where five or more such syndicates combine for the establishment of an experiment station for the growth and study of the entomology, phytopathology, microbology, and other characteristic elements in wheat growing and are properly equipped for the work, a bounty of 20,000 milreis ($6,000) will be paid, such bounty also to continue for five years.

All implements, tools, machinery, and apparatus for such enterprises will be admitted free of duty, this privilege in itself amounting to a material bounty for the support of the industry. The Federal Government also binds itself to secure as far as possible reductions in freights upon wheat grown in the country and upon flour manufactured from such wheat, and, after a year's operation of the law, the Government is to prefer such product in the granting of contracts for supplies for public purposes. It is also provided that the syndicates and the managers of experiment stations established by them shall make formal official reports on their work, with a view to enable the Government to collect as much information as is possible for the use of the agriculture of the country generally. In short, every available means is to be taken advantage of to develop wheat growing in Brazil. What the results of such efforts may be is, of course, doubtful. Some varieties of wheat can be grown in the southern (colder) portions of the country, and it is possible, of course, that varieties of wheat may be developed which can be successfully produced in warm climates. It is doubtful, however, if the amount of wheat to be produced will materially interfere with the imports of wheat and flour from Argentina and flour from the United States.

CHILE.

SATISFACTORY CROP RESULTS—GOVERNMENT ENCOURAGEMENT.

Writing from Valparaiso, Consul Alfred A. Winslow says of the crops of Chile:

The wheat yield is about the same as for last year, when there was a surplus of about 5,000,000 bushels, and the quality in the main is superior. The barley crop is a little short of an average, but will be sufficient to meet the home demands. The fruit crop promises well and the yield will more than supply the demand, but as there is little exported the surplus will be allowed to decay.

The future looks bright for the development of agriculture in Chile, as the Government is doing much to open up the undeveloped portions of the country by building railways, assisting irrigation enterprises, bettering the wagon roads, and encouraging immigration. The soil of Chile is very fertile and could be made to produce two or three times more were up-to-date methods and machinery employed. Here is an opening for American agricultural-machinery men to push their work.

CANADIAN GRAIN SHIPMENTS.

CHANGING THE GRAIN ROUTE FROM THE EAST TO THE WEST COAST.

Consul Frank C. Denison, of Fernie, British Columbia, furnishes the following information concerning a convention held at Calgary, on March 3 and 4, called at the instance of the Western Grain Growers' Association, for the purpose of changing the routing of western-grown grain from the east to the west coast:

The subject discussed at this convention is not alone of interest to the western portion of Canada, but such interest may extend to the United States, for it is destined to make itself felt upon the revenue of the Panama Canal, as a result of the arrangement begun at Calgary. There were present at the meeting representatives of the

Western Grain Growers' Association, members of the Calgary and Vancouver boards of trade, the British Columbia government, the Alberta government and legislature, and the Canadian Pacific Railway. The Premier of Alberta presided.

The object of the meeting was the consideration of the project of changing the routing of western-grown grain from the east to the west coast, in order to reduce the cost of transportation to the grower, to relieve the transportation companies, and to lengthen the time for handling the crops.

THE ONE-WAY HAUL.

Ever since the construction of the Canadian Pacific Railway across the continent, opening up the great stretch of fertile prairie lands lying between Winnipeg and the Rocky Mountains, the management has been struggling with the transportation problem, which has been growing faster than the capacity of the road to take care of it. One of its greatest difficulties has been the one-way haul. The product of the prairies at first was live stock, mostly cattle, grass fed, which had to be moved in the fall of the year. Later there was added the lumber from the Pacific coast and the mountain mills, which, too, had to be moved at the same season to meet the demands of the new settlers. But the problem assumed its greatest proportions when the prairies began to produce wheat by the hundred millions of bushels. Heretofore the efforts of the railway has been to transport these ever-growing volumes of products to the eastern seaboard, but each year the product has grown faster than the facilities to handle them, and the railway company has been compelled to seek another solution.

The distance from Calgary, which may be considered as the center of the field from which the proposed change of routing is to take place, to Fort William, is 1,260 miles. From Calgary to Vancouver, the distance is 644 miles, or half the distance which grain is now being hauled by rail to reach a lake port.

The present rate for grain from Calgary to Liverpool, via the Atlantic, is 56 cents per 100 pounds, while from Calgary to Liverpool, via Vancouver and either Cape Horn or the Suez Canal, it is 45 cents. This difference is almost wholly swallowed up by the extra cost of handling at Vancouver on account of lack of terminal facilities, but there still remains a margin of a cent or two in favor of the new route.

As a result of the Calgary conference, steps are being taken to remove the terminal difficulties at Vancouver by the erection of elevators. The Canadian Pacific has signified its intention of building elevators of its own, and at least one private company has already entered the field and proposes to have an elevator of 500,000 bushels capacity ready for the growing crop. It is estimated that with this improvement grain can be shipped to Liverpool, via the Horn or the Suez Canal, at a saving of 6 cents per bushel to the producer, as compared to the eastern haul by rail and lake.

All the grain grown between the mountains and Winnipeg, all the live stock, all the lumber, and a great portion of the coal from the Crows Nest Pass field now has to go east, a very large portion of it in the fall of the year, causing a congestion of cars in the east and a corresponding shortage in the west. The rapid increase of the wheat area on the prairies only serves to aggravate this condition by creating a greater demand for cars, not only for the transport of wheat, but for lumber with which to improve the farmers' homes. Cars that are loaded only one way can not earn half as much as if freighted each way, and it is this feature of the problem that has compelled the railway to favor the new move.

HEAVY FREIGHT TRAFFIC.

It is estimated that there will be produced in Alberta this year 20,000,000 bushels of wheat, and that the western half of Saskatchewan will do at least as well. If the facilities were adequate to handle this grain at Vancouver, the whole of it would find its destination through that port. It will be seen from this that long before the Panama Canal has been completed the grain from a large portion of the new territory, being filled up by a large percentage of American settlers, will be waiting at the Pacific terminal for passage to the western ports of Europe.

Another element, or rather condition, which has its share of influence in bringing about the change, is the availability of the Vancouver route all the year round, as against the seven months during which the Great Lakes are open to navigation. The estimated crop of 30,000,000 or 40,000,000 bushels of wheat from western Saskatchewan and Alberta this year will grow to 5 or possibly 10 times that amount by the time the Panama Canal is ready to handle it, and, aside from the portion taken for the Orient, the bulk of that great crop will pass through that canal. The importance of this feature of the changing of the route of shipment to the west coast of the continent can not be too carefully studied by the industrial and commercial world.

The Blue Funnel line of steamers, plying between Liverpool and Vancouver, by way of the Suez Canal and the Chinese ports, has three steamers in the service, which are being overhauled so that 80-foot timbers can be stowed in their holds instead of only 40-foot lengths as heretofore. One of these steamers has been chartered to take a shipment of 17,000 bushels of Alberta red wheat to Liverpool on its next trip at the rate of 45 cents per 100 pounds, via Vancouver and Suez. The wheat will have to be sacked, which will add another 6 cents per bushel, but the shipper will still have a margin over the eastern route, and can forward his wheat now, whereas he would have to wait for the opening of lake navigation in May before shipping by that route.

NEW ROUTES AND TRAFFIC CHANGES.

While the much-talked-of Hudson's Bay route will partially relieve the situation, it will be subject to this same winter stoppage and one-way haul feature. The Grand Trunk Pacific, now under construction, and the Canadian Northern, which is reaching out toward the western coast, will both be subject to the same conditions, when completed, as is the Canadian Pacific, and will be contributing to the Pacific route and the Panama Canal their full quota of the grain grown in the northern territory through which they are to run.

Another effect of the reversal of the tide of wheat from east to west will be to throw a vast increase of traffic over the Crows Nest

Pass branch of the Canadian Pacific, as the great bulk of grain grown south and east of Calgary, as far east as the rates will permit, will pass westward through the great coal field, and the returning cars will be loaded with merchandise, lumber, and coal for the prairies whence they carried their loads of grain westward in order to get to the Far East with the least resistance.

The Canadian Pacific is already preparing for the great change by expending some millions of dollars in improving the Crows Nest branch, between Medicine Hat, where it leaves the main line, to the Rocky Mountains, putting in one of the largest steel bridges at Lethbridge ever erected by any railway, reducing grades, and rebuilding miles upon miles of its tracks. All these things are being done for the purpose of increasing the hauling capacity both ways, but particularly with a view to improve the western haul.

WINNIPEG.

LOWER GRAIN RATES THROUGH COMPETITION.

Consul-General John Edward Jones, of Winnipeg, advises that information from the Canadian lake ports of Fort William and Port Arthur indicate the prospects of the keenest competition in grain rates between the Canadian and American transportation interests. He writes:

The proposed action on the part of the Canadian transportation companies is designed to meet the competition which it is believed will surely occur when navigation opens and the new rates of the American interests are put into effective operation. During the past few years Montreal has made great advances as a shipping center, due primarily to the favorable freight rates between Fort William and Montreal via the Lake route. The carrying rate last year averaged about 6 cents per bushel, and the prospects are that a rate of 5 cents will be offered, and, if necessary, a further reduction.

It is not expected that there will be any considerable rush of grain to the east when navigation opens, it being estimated the total supply in the great elevators at the Canadian head of the Lakes is some 2,000,000 bushels less than last season. The Canadian transportation companies have as an advantage, should a rate war develop, that they can afford to move the grain east at a very small rate, depending upon the western shipments of merchandise to offset any loss.

MONTREAL.

THE PORT TRAFFIC TO BE PROTECTED.

A similar report comes from Vice-Consul-General P. Gorman, at Montreal, who says:

There is a determination on the part of the transportation companies in Canada, no matter what efforts American railways, with their lake steamship allies, may make to divert Canada's wheat traffic to the United States Atlantic ports, to hold fast to their own. This is the unanimous feeling of the railway and other transportation interests and of the grain brokers who do business here. The freight traffic manager of the Grand Trunk Railway has announced that the company would protect the interests of the port of Montreal no matter what the developments might be; that they "meet the rate of the American trunk lines with a rate of 4 cents a bushel from Georgian Bay ports to Montreal. What we may do in the future I am not prepared to say."

Last season there were upward of 20 tramp steamers in the port of Montreal to carry grain to Liverpool and other British ports. Over 4,000,000 bushels were shipped. The Canadian rate figures out thus:

	Cents.
Lake steamer direct Fort William to Montreal	5
Or Lake steamer Fort William to Kingston, then by barge	5½–5
Or Lake steamer Fort William to Georgian Bay ports (1 cent) and Grand Trunk Railway by rail, Georgian Bay ports to Montreal (4 cents)	5

LIVE STOCK.

AUSTRALIA.

SHEEP-RAISING INDUSTRY—PASTURAGE CHARGES AND WAGES PAID.

Consul-General John P. Bray, of Sydney, forwards the following report on wool and mutton production in Australia:

So varied are conditions in different parts of Australia that it is impossible to give an accurate statement of the cost of producing wool. Some of the finest wool is grown in inferior country where the land is of low pecuniary value; while the wool grown in more valuable districts is often of lower quality.

The bulk of Australia's flocks are grazed on land either purchased from the crown or rented, and may be valued at an average of $10 per acre or 50 cents per acre rent annually. This land will carry sheep at the rate of about 1 sheep to 2 acres, but in the leasehold country far west 5 or more acres per sheep are required. From these facts the ordinary pasturage cost can be deduced. The sheep run in the open all the year, and they are given no fodder outside of the pasturage, except in cases of severe drought.

Wages paid "boundary riders" or cowboys average about $5 per week, and this includes rations. More experienced hands get $7.50 to $10 per week. Shearers are paid at the rate of $5 to $6 per 100 sheep sheared, while contract shearers usually work for about 12 cents per sheep.

TRANSPORTATION RATES—SMALL WOOL CLIP.

Cost of carriage of sheep from ranch to point of shipment varies according to distance, but a fair estimate would be from 18 to 25 cents per head, taking the country generally. The average sea freight, including freezing, on mutton to England is 3 cents per pound. The value of fat sheep, that is, sheep for killing, in this market is governed largely by the demand in the United Kingdom. South African demand also has its effect. The prices for shorn merino wethers ranges from 95 cents to $3.50 per head, and for ewes from 72 cents to $3; for shorn crossbred wethers from $1.70 to $3.65, and for ewes $1.60 to $3. Freight charges to Boston by steamer range from 1¼ to 1½ cents per pound, and by sailer, from 1⅛ to 1⅜ cents per pound. To London steamer rates alone are given at 1⅛ to 1⅜ cents per pound. Owing to sharp competition just now (January 8, 1909) it is possible to ship wool to Liverpool for three-fourths of 1 cent per pound. This unusual rate is not likely to remain long in force.

The total amount of the clip available for export during the year ending June 30, 1908, was 686,810,010 pounds, as against 710,168,448 pounds for the previous season. The average value per bale of all the wool sold in Australia during the same period was $63.22, as compared with $69.98 for the previous year, a decrease of 8.36 per cent. The average weight of wool produced per sheep was 6 pounds 9 ounces, the average for the preceding year being 7 pounds 2 ounces. The average monetary return was $1.22 per head of sheep and lambs, as against $1.42 for the previous season. The falling off of wool produced per head and the lesser monetary returns are attributable to the facts that a large proportion of the sheep had only 10 to 11 months' growth of wool on when they were shorn, the poor general condition of the last clip, and the lower average of values ruling than in 1906–7.

The quantity of lamb's wool dealt with in Australasia during the period under review was 70,080 bales, as compared with 105,873 bales the previous season. The proportion of scoured wool sold in Australasian markets was 9 per cent, as compared with 11 per cent during the previous year.

JAPAN.

HORSE RACING ENCOURAGED AND GOVERNED BY LAWS FROM TOKYO.

Consul John H. Snodgrass reports from Kobe that it is given out that the Japanese Government will ask the Diet next session to appropriate a sum amounting to $175,000 annually for improving the breed of horses, and that this amount will be divided among thirteen race clubs. The consul also writes concerning a new regulation for horse racing in Japan:

In view of the interest manifested in the United States concerning race-course gambling, the following new regulations for the control of horse races, issued by the Japanese cabinet, may be of interest:

(1) No one shall be permitted to hold horse races except racing clubs formed in conformity with article 34 of the Civil Code.

(2) Horse races shall be held twice a year regularly by each club, and the number of days when racing will take place on each occasion shall not exceed four.

(3) No horses useless for horse-breeding purposes shall be allowed to run in the races.

(4) Each horse-racing association shall adopt its own regulations for races and submit them to the director of the stud bureau.

(5) The director of the stud bureau, when he deems it necessary for the improvement of horse breeding, may partially subsidize the clubs for the expenses of the races.

(6) All matters relating to the maintenance of order and public morals shall be in the hands of the local authorities.

(7) If a horse race is found to be run in the circumstances referred to below, the authorities may order it to be stopped or may take proper steps for the punishment of the race club responsible: (*a*) When the racing club is found to violate this regulation or is guilty of any other irregularity; (*b*) when danger is found to be present in matters relating to the races; (*c*) when it is deemed necessary to take action for the maintenance of order and public morals at the race course.

DAMAGE FROM HAIL.

USE OF CANNON IN FRANCE AS A PROTECTION AGAINST SUCH STORMS.

In answer to inquiries from New York and California grape growers asking for information concerning the continued use of cannon as protection against hailstorms in France, Consul John C. Covert, of Lyons, makes the following report:

The following information is given in reply to letters from the United States asking information concerning the latest developments in the use of cannon in France to prevent damages from hailstorms. The general agents of a New York State concern say that they have used several cannon sent to them through this consulate and that "notwithstanding the expressed opinion of the United States Weather Bureau, we believe that the use of hail cannon as a protection against hailstorms is practicable. We think we have saved many thousands of dollars by the use of the cannon." A correspondent in San Francisco, Cal., asks information on the same subject.

SCIENCE VERSUS PRACTICE.

Upon the receipt of these letters I called at the central office of the Union of the Agricultural Societies of southeastern France and was told that more cannon had been used during the past year than at any other time since their invention. In answer to my remark that a committee of army officers, who superintended the firing in one grape-growing district, had reported adversely to the use of the cannon, they informed me that there were no hailstorms of importance in the district referred to, and that the cannon were not effective where used because they were not properly handled. The fact is that while some very learned men oppose a scientific theory to the use of the cannon, the practical farmers continue to use them, and persistently maintain that the practice knocks out the theory. In the great Beaujolais wine-growing district, where hail often falls three or four times a week, cannons are believed to be very effective. I have interviewed many business men who own large vineyards. When first asked they hesitate to answer, but then say their managers insist that they save money by using the cannon and that their losses have been less than before the cannon were used.

An important report, though somewhat noncommittal, has recently been made on this subject by M. J. Vielle, a member of the French Academy of Sciences. He was requested by the minister of agriculture of the French Government to investigate the subject, and after two years of study he reported that it was very difficult to determine the precise effect of the firing of cannon into storm clouds, where heavy winds and other elements of nature combine to form an atmospheric condition. I quote and translate from his report:

> What strikes a person at first is the continued confidence of these societies for the defense against hail who certainly would not continue so long in defraying the expenses of the use of the cannon if they had not reasons to believe them efficacious. We can not reasonably doubt the good faith of the grape growers, among whom are men of careful observation, accustomed from childhood to follow atmospheric phenomena. And they all agree that well-attested results are produced by a well-organized defense.

CONCLUSIONS REACHED.

> The field of action in the Beaujolais is especially interesting on account of the comparative statistics before and after the employment of this means

of defense, the statistics having been carefully compiled by the syndicate (the society for the protection of the vines against hail). Nothing more clearly demonstrates the importance to be justly attributed to this means of proof than the earnestness of the discussion which has recently taken place concerning the opinions upon which are based the comparisons to be established. In fact, there will never be annually but a small number of storms in which all the attendant circumstances can be minutely noted, and by the very nature of the phenomena the effect of the cannon can not be determined with absolute accuracy.

To sum up, the result of direct experiments is the weak effect produced upon storm clouds by a single discharge. The effect of a number of discharges at once still seems to be capricious and uncertain, which means that such firing seems often insufficient. In a violent storm, in the nature of a cyclone, spasmodic efforts of well-meaning artillerists, taken by surprise and thrown off their guard by the hurricane, are almost fatally destined to failure.

But it does not seem impossible to successfully combat a slowly moving storm emerging from a mountain pass, the habitual path of the storm clouds, if this pass and the neighboring heights are provided with means of defense, systematically located and regularly handled, and if the necessary arrangement of the cannon at the head of the starting point of the region to be protected is a part of methodic organization in the locality to be protected.

A rapid and precise report of storms in certain fields of operation thus organized would undoubtedly afford, independent of statistics, substantial arguments on the still unsettled question of the efficacy of the hail cannon.

As the use of cannon requires the building of a small hut in which they are housed and other expenses, the grape growers are now using a rocket that is sold for a few francs. It throws a bomb into the air which explodes in the clouds.

[A copy of the report of the member of the French Academy of Sciences and an illustration of the rocket used, as stated in Consul Covert's report, are on file in the Bureau of Manufactures.]

IRRIGATION IN CHINA.

A LARGE FIELD PRESENTED FOR PUMPING MACHINERY.

In reply to a St. Louis inquiry respecting the opportunities in China for electrical pumps for domestic water supply, Vice-Consul C. L. L. Williams furnishes the following information, prepared by Mr. A. W. Gilbert, of that office:

China presents a large field for irrigation, which is absolutely necessary, and which is now being done by hand all over this part of China. At the outset the fact must be recognized that the superiority of the pump over hand power must first be practically demonstrated to the Chinese, who from time immemorial have not altered this method, and do not readily take to foreign innovations of this kind. After that manufacturers can decide whether in this country, where crops depend upon an artificial supply of water, a market for pumps is assured.

My suggestion involves the installation of a sample plant—say, on the Yellow River, in the northwestern part of this (Shantung) province, where they are now having a famine on account of drought—at the manufacturer's expense, who could charge a nominal water tax, which at the very least would pay the running expenses, or stipulations with the Government might be made to properly irrigate at a maximum cost of so much per acre, with the understanding that proper reimbursement would be made upon fulfillment of the conditions. The question of getting permission from the authorities to put in a plant, the manner of collecting the tax, and all other details would be solved by a local or traveling agent.

The following letter from the physician at the Methodist Episcopal Hospital, Peking, deals with this pump question. [The names of persons who might act as agents in this regard in China are on file in the Bureau of Manufactures.]

THE WATER FROM THE PEKING HOSPITAL WELL.

The well was bored in 1902; finished about December 1. It is 210 feet deep. There is no definite way of telling how much water is used. The capacity of the engine pump is 3,500 gallons per hour, when running at its capacity. We run the pump on an average of eight hours a day.

We discarded a windmill simply because it could not do the work. There is no mill that could possibly keep us supplied. It would take an immense reservoir for reserve water, as the winds are too eccentric.

A hot-air engine is in use. It is a fine machine. The sale of water pays all current expenses. Our well is in rather too secluded a place for the sale of much water, and then there are so many wells now that competition is rather large. By running pipes to another part of our compound we could sell much more water, I am sure. The sale of water with the tax paid by our own people (missionaries) would pay for the plant in time. We have duplicated our engine this year and expect to pay for it from the sale of water. How long it will take to pay for the engine out of the water sales will depend entirely upon how well the water sells.

MUSHROOOMS IN FORMOSA.

SUCCESSFUL CULTIVATION OF A HIGH-CLASS ARTICLE.

Consul Carl F. Deichman, of Tamsui, reports that a company organized for the purpose of encouraging the growth of agricultural products in Formosa, has been successfully experimenting in the cultivation of a mushroom which is largely used by the Japanese and Chinese for its high quality. The consul writes as follows concerning the outcome of the experiment:

This mushroom is extensively grown in Japan, but until the Formosa company started cultivating it, a little over a year ago, none was raised in Formosa, although the climate in the higher mountain regions is well adapted to its growth, and the tree known as "Shii," to which the mushroom attaches itself, is found in large numbers in these mountains. The Shii is a species of oak (Quercus cuspidata). The tree is cut down and trimmed of its smaller branches and rice water thrown over it at intervals to prepare it for the mushroom. In Formosa it takes about one year to get the first crop of mushrooms, while in Japan it takes three. They improve in size and flavor up to the third year.

This mushroom was grown in Shinchiku Prefecture, about 40 miles south of Taihoku, but was not of very good quality, the climate apparently being too warm. They are now growing it in the mountains of Byoritsu, about 6,000 feet above sea level, where the climate is about the same as that of the districts where it is grown in Japan, and the yield is of superior quality. The first crop, just gathered, was of excellent quality, though the amount was small—about 650 pounds. The price received for it averaged 30 cents per pound. The price in Taihoku is 50 cents per pound. The company estimates that the spring crop will amount to 10,000 pounds. They expect to increase the production as well as improve the quality in order to fill the demand in Formosa, as well as export it to Japan and other countries, as it has been found to be a very profitable enterprise.

SEAWEED AS FERTILIZER.

USED BY THE FISHERMEN OF ST. PIERRE FOR GARDEN PLOTS.

Consul Douglas Jenkins, of St. Pierre Island, which is off the southern coast of Newfoundland, sends the following report on the use there of seaweed for enriching the soil:

Seaweed as a fertilizer is very much appreciated by the French fishermen who cultivate little vegetable gardens on St. Pierre and Dog islands. Even the farmers of Miquelon and Langley, the two large islands in the group, find the sea grass deposited in large quantities along the shore equally as valuable as manure from the barnyards.

Only Miquelon and Langley can be said to have any agricultural interests whatever, but in spite of prevailing high winds and a rocky soil it is surprising what quantities of vegetables are produced in the little patches of ground fit for cultivation on St. Pierre and Dog islands. Dog Island seems to be little more than a great rock, and St. Pierre is not much better, but here and there in the "pockets" are found little plots of earth. These are carefully and gradually developed by annual applications of seaweed until the maximum of production is reached. From that time on the weed is used to maintain the strength of the soil.

Seaweed is used for fertilizer in some other parts of the world, but usually the grass is first burned, and only the ashes are put on the land. In St. Pierre, however, the weed gathered on the rocky shores is spread broadcast in its natural state. Newfoundland dogs, which are largely used as beasts of burden here, are factors in this work of gathering and distributing seaweed. The faithful creatures can often be seen struggling up the hills, drawing heavily loaded carts.

Seaweed is very plentiful, especially after storms, when it is found in great quantities on the beach. The fertilizing power of seaweed is evidenced by the odor which begins to arise as soon as the plant starts to decay, becoming more pronounced and unmistakable as the decomposition advances. This odor leaves no doubt of the presence of quantities of animal matter in the seaweed. Cabbages, celery, and lettuce thrive in this sea fertilizer. Potatoes, however, do not seem to do so well. Beets and certain kinds or varieties of peas also yield satisfactorily. The summer season, however, is very short.

OLEAGINOUS PRODUCTS.

OIL CAKE AND SEED.

CHINA.

LARGE INCREASE IN THE BEAN AND BEAN-CAKE TRADE.

In transmitting the following report on the bean and bean-cake exports from Newchwang, Consul Thomas E. Heenan calls attention to the exports of Chinese beans to the United Kingdom as the beginning of what is expected to develop into considerable proportions:

Since the closing of the river to navigation, large numbers of carts have been entering the town with inland produce, and great quantities of beans have been stored for export in the spring. It is difficult to obtain reliable figures concerning the quantity brought by rail, but up to date 64,000 tons have been brought by carts, and it is estimated that the total quantity brought in by rail and carts during the four months December–March will reach 88,000 tons, against 30,000 tons for the same period last winter. This quantity, however, is small compared with the stocks shipped to Dalny by rail from the north, and when the thaw sets in, putting a stop to cart traffic, unless there are early spring rains, there is very little prospect of large supplies coming down by river boats, as the snow thus far has been insufficient to give the requisite draft of water in the up-river reaches.

COUNTRIES TO WHICH SHIPMENTS ARE MADE.

Beans, bean cake, and bean oil are the principal products of Manchuria. The prices of these during the past season have been higher than ever before, but how much of this is due to the ability of Japan, a gold-standard country, to pay more in silver, because silver has been cheap, can not be positively stated. The bean cake and bean oil go chiefly to Japan, but shipments have gone to England, France, and the United States during the past year. The American shipment was a small quantity sent from Newchwang merely as a sample, and as yet no information is obtainable here relating thereto. During the year the exports to England amounted to about 70,000 bags. This is a new development, said to have been brought about by English experts who have made a study of the beans. They have discovered, it is said, a means of extracting an oil therefrom, for culinary use as well as for lubricating purposes, the residue being converted into cattle feed. The exports of bean cake from Newchwang to foreign countries in 1908 amounted to 246,608 tons, valued at $5,518,508. The exports of beans from Newchwang to foreign countries and other Chinese ports during 1908 were as follows, in tons: Black beans, 16,498; green beans, 31,873; white beans, 4,315; yellow beans, 75,996; red and small green beans, 3,634; total, 132,316 tons.

UNITED KINGDOM.

AN EXPERIMENT WITH THE SOYA BEAN OF MANCHURIA.

Consul Walter C. Hamm at Hull writes, under date of January 20, that the English seed-crushing industry there is much interested in the impending arrival in the port of a large quantity of oil beans from Vladivostok and Dalny, concerning which consuls there had made reports. Mr. Hamm says:

The matter is of importance to the country generally, as it represents the opening out of a new supply of raw material for crushers, and will also furnish to the British agriculturist a valuable and nutritious cattle food at a low price. The soya bean is grown in Manchuria, where the natives use it for personal consumption, for their cattle, and for other purposes. It has been exported to some extent to the United States, and a few samples have been brought to England, but the present shipments to Hull are the first on a large scale. Three steamers, the Maroa, the Javorina, and the Matoppo, are now on their way from Dalny or Vladivostok with about 10,000 tons each, and the Claverdon and the Bannockburn are loading similar quantities at Dalny, making 50,000 tons in all.

An analysis of the soya bean, it is claimed, shows 18 per cent of oil and 38 per cent of albuminoids. It is expected that the manufactured cakes will contain 6 per cent of oil and 40 per cent of albuminoids. With regard to the cost of the beans, that is put at $30.41 per ton, as compared with $48.66 per ton for linseed. The oil has yet to be tried, but it is confidently believed it will answer the same purposes as cotton oil.

Last year the supplies of linseed and cotton seed were bad in Hull, and the development of this fresh source of supply of raw material is welcomed by the crushers. It has been decided to name the cake made from the beans the "soya cake."

[The British oil crusher is experimenting with the Manchurian bean, and is discovering that, although the oil it yields is not superior to cotton seed, it may become a cheap substitute for that article. The bean oil has been coming to England since the end of last year, and the consignments already made are valued at £100,000 ($500,000). A London firm of oil merchants declare that the new oil does not promise well for saponification, being a low standard oil, although some of the soap makers are working with it. It has a dietetic value, however, and can be used for illumination, though not for painting, as it dries slowly. For all ordinary purposes it may be substituted for cotton-seed oil. The bean oil has been sold in London at from 22s. 6d. to 23s. 3d. ($5.46 to $5.65) per hundredweight, while cotton-seed oil realized from 24s. 6d. to 25s. ($5.95 to $6.08).—London and China Telegraph.]

A NEW INDUSTRY AT HULL.

PREPARATION OF OIL CAKE FROM CHINESE SOYA BEANS.

Vice-Consul Charles Drysdale, of Dunfermline, transmits an article from the Eastern Morning News concerning the arrival at Hull, England, from China of the first cargo of soya beans, from which the following information is extracted:

The arrival of the Javorina marks the beginning of what promises to be an important industry in this country. Considerable interest is manifested in this new development, as it will have an important bearing upon the future prosperity of the oil-cake industry.

The beans arrived in good condition, and this is due to the excellent arrangements made for ventilation in the hold. It is a long voyage from Eastern Asia to Hull.

The soya bean belongs to the vetch tribe, and the plant has the power of absorbing the nitrogen from the air, and it does not impoverish the land in the same way as the ordinary seed does. That is an important point which will facilitate its cultivation.

Several British firms of cake manufacturers have conducted a further series of tests, and these have proved eminently satisfactory. The experimental soya cakes which have been made in Hull have been tested by a practical and scientific dairyman in the East Riding, who has reported that one cow set aside for this test and fed with half a cake a day, in addition to other food, yielded a considerable extra quantity of milk daily and was much improved in general condition. The large proportion of oil in the cake makes sparing use of it advisable.

The development of Manchuria promises to revolutionize what is an important industry in Hull. Practically an unlimited supply of the beans can be obtained, enormous tracts of land in Manchuria and China being under cultivation. Besides making a more nutritious cattle cake, it will be cheaper than the ordinary oil cake, and if the development is a success, as there is every reason to suppose it will be, the Japanese will develop Manchuria and produce still larger quantities for the English market. What it will mean to Hull alone is that this new source of supply will be available in the seed-crushing trade when other classes of seed are scarce, and the mills will therefore be able to continue running uninterruptedly.

The Japanese have adapted the bean to commercial uses, not for the food of animals, but for that of man. It is not an unpopular article of diet in many parts of the Far East. It possesses sustaining qualities, and is the basis of a Japanese sauce.

CHINESE BEANS IN SCOTLAND.

TESTS IN CRUSHING MILLS FOR OIL AND STOCK MEAL.

Several consular reports have noted the recent experimental shipment of beans from Manchuria to the United Kingdom. The following additional report is from Consul Rufus Fleming, of Edinburgh, bearing date of February 12:

In the production of oil cake and seed oil the crushing mills in this district have long used only Bombay and Egyptian cotton seed. Recently some of the mills have experimented with small quantities of "soya beans" from Manchuria. The Chinese bean, which is about the size of a pea, has been found to contain from 15 to 16 per cent of oil suitable for soap making. The usefulness of the oil for other industrial purposes has not yet been demonstrated. The cake produced, containing about 6 per cent of oil, is said to be good feed for stock. Tests made in crushing mills at Liverpool, I am informed, indicate that soya beans are of practically the same value to oil-cake makers as Bombay cotton seed, but less valuable than Egyptian.

The mills in this part of Scotland have undertaken to carry out thorough tests, and a shipment of 1,700 tons is expected to soon arrive at Leith for this purpose. The price of soya beans is £6 5s. ($30.41) per ton, being the same value as Bombay cotton seed. It is claimed that the oil can be sold at a profit for £22 ($107.06) per ton, against £24 ($116.79) per ton for oil from Bombay cotton seed, ex British mills. The opinion obtains here that if the experiments to be made prove fairly satisfactory the new material will be largely imported by the oil-cake firms instead of cotton seed.

BRITISH INDIA.

OILSEED CROPS OF EASTERN BENGAL.

In transmitting the following estimates of the oilseed crops in Eastern Bengal, Consul-General William H. Michael, of Calcutta, reports that returns from the Chittagong Hill tracts are for the first time included:

Deficiency of rain from the latter part of July until the sowing season has resulted in a shortage of area sown to rape seed in some districts, but in others sowing was done on high land, which in ordinary years would have been put under transplanted rice. The crop has grown about as well as usual, except in places where rain was very deficient and where the land was in a poor state of cultivation. The showers that fell in January benefited greatly the later-sown portion of the crop. The estimates show a probable output of 73 per cent of the normal yield per acre from an area of 1,194,300 acres, as compared with 72 per cent from 1,255,900 acres last year.

Two crops of til are grown in this province: The bhadoi, which is sown about March-April and harvested about November-December, and the rabi crop, which is sown about September and harvested at the end of the cold weather. The bhadoi crop of 1908 was favored by an absence of heavy floods. The output, although estimated at only 67 per cent by the collectors, is probably not less than normal. Insufficiency of rain has affected the rabi crop, but the average of the district estimates amounts to 85 per cent. The total area under the two crops in 1908–9 is 236,100 acres, against 233,800 acres last year.

The total area under linseed is practically the same as last year—about 86,000 acres. The output is expected to be only 67 per cent of the normal, owing to deficiency of moisture in the soil.

COTTON-SEED OIL.

BRITISH INDIA.

COTTON-SEED-OIL BUTTER AS A SUBSTITUTE FOR GHEE.

The following useful report from Consul-General William H. Michael, at Calcutta, calls attention to a movement in India to manufacture edible fats from cotton seed, and the market it creates for the necessary machinery:

The price of ghee in India has increased in price during the last two years more than 125 per cent. In consequence, a great many of the poorer classes who have heretofore been able to buy this article of food are now unable to do so. The value of ghee produced last year is placed by the Commercial Intelligence at about $20,000,000. The question that presents itself to those who are interested in economic subjects is, What shall be done to supply the people of India with either ghee made of cow's butter or an acceptable substitute made of cotton-seed oil?

The use of lard or beef fat, or, for that matter, animal fat of all kinds, rules out oleomargarine, butterine, and any form of substitute for ghee made of animal fats is out of question. But there is an opening, and a big one, for the manufacture of a substitute for ghee from cotton-seed oil, or any vegetable oil that can be used for the purpose.

Ghee is largely manufactured throughout India, and until the advance in price within two years generally sold in the bazaars at 25 per cent above the cost of butter. The best ghee in the market on the west side of India is made near the mouth of the River Indus, and is distributed from Karachi. While butter is used to some extent by Indians, yet ghee is preferred by the masses of Hindus, especially in southern India. In preparing ghee butter is boiled until all the watery particles and curds have been thrown off by repeated skimmings. When the liquid is clear oil, it is poured into a vessel to cool. When cooled it is in granulated form; and if it has been boiled and skimmed thoroughly will keep indefinitely without becoming rancid or of bad odor. Instances are of record of the preservation of ghee for a period of two hundred years, the ghee having been found in deserted castles. As far back as 1876–7 ghee was shipped to the seacoast of eastern and southern Asia to the extent of 500 tons annually. In 1879–80 1,236,433 pounds, valued at $151,614, was exported.

BOTH MACHINERY AND MANAGER WANTED.

India imported 406,555 pounds of ghee in 1907–8 and exported to points within the British Empire 4,222,507 pounds, valued at $755,905. As the total value of ghee manufactured in India in 1907–8 is estimated at $20,000,000, it would appear that a very small amount of it is sent out of the country. The enormous advance in the price suggests that the demand is greater than the supply.

From high official authority I learned recently that native capitalists in Bombay are taking preliminary steps toward the establishment of a factory for the production of ghee from cotton-seed oil, and that they are seeking for the best information on the subject of the manufacture of the article, the best kind of machinery used in its manufacture, and to obtain the services of an expert to take charge of the factory. Anyone who desires to enter into an engagement of this kind would receive all the information on the subject required by addressing the director of commercial intelligence, Calcutta, India.

If there is a manufacturer of machinery that would be used in the manufacture of cotton-seed oil into ghee, or as a substitute for ghee made of cow's milk, in the United States, he would do well to write to the same person on the subject and be put in communication with the persons in Bombay who are anxious to put money into such a plant.

Of course, what I have said suggests that ghee made in the United States from cotton-seed oil would find a ready market in India. Altogether the situation presents opportunities for trade in the kind of machinery required in ghee made in the United States and offers an opening for experts to make profitable business engagements with Indians who are anxious to put their money into ghee-making factories.

EUROPEAN TURKEY.

GOOD TRADE DEVELOPING IN THE COTTON-SEED PRODUCT.

The attention of American manufacturers and exporters of cotton-seed oil is earnestly invited by Consul Evan E. Young, of Saloniki, to the market opening in Turkey. He writes:

In 1907 the olive crop in the regions which supply this district with olive oil was very scant, and local importing houses found themselves unable to supply the demand. Quotations on olive oil increased some 30 per cent over the normal rate, and local houses were searching vainly for a substitute. Edible oils of all sorts play an important part here in cooking and the preparation of local dishes.

Efforts were made to import cotton-seed oil from the United States and England, but were unsuccessful on account of the prohibition then existing on the importation of cotton-seed oil. In 1908 the olive crop was again an almost total failure, and finally the government prohibition, just mentioned, was removed. Large orders were at once sent to England and a few to the United States. When the shipments of the cotton-seed oil arrived, a comparison and test of the two products resulted strongly in favor of the American article. The cotton-seed oil from the States was found to be of a much lighter color and free from that heavy odor which renders the English oil less desirable for culinary purposes.

I have gone into the matter of the comparison of the two oils at some length with local experts, and am entirely confident that, with a little care and attention on the part of American exporters in the matter of the careful filling of orders from this section, within a few years a splendid market for this product will be thoroughly established.

The imports for the year 1908 of cotton-seed oil from the United States amounted to about 6,000 barrels, value $150,000; from England, 3,000 barrels, value $75,000.

In addition to this, a large quantity was imported from agents for American cotton-seed oil at Hamburg, Liverpool, etc. The desirability, however, of direct dealings between the local buyers and the American exporters is urged. Large orders have been sent to the United States for delivery this year, and I anticipate an increase of nearly 100 per cent in the importation of this article. A list of the local importers of cotton-seed oil may be secured from the Bureau of Manufactures.

OLEO OIL IN TURKEY.

OPPORTUNITIES FOR THE SALE OF OLEO OIL IN THE ALEPPO DISTRICT.

Consul Jesse B. Jackson reports as follows concerning the opportunities in the Aleppo district of Asiatic Turkey for the introduction and sale of oleo oil, his report being dated February 1:

It seems that up to the present time the great bulk of oleo oil consumed in Turkey is used by the Christian population, and not by the Moslems, as might be more naturally supposed. The latter have not as yet become reconciled to its use. However, it is a well-known fact that the Mohammedan does not use lard or any other part of the pork, and consequently uses in its stead olive oil and sheep, goat, and cow butter. The olive production in this vicinity was almost a total failure last year, not amounting to more than 20 per cent of an average crop. Where heretofore the price was about 13½ current piasters, or about 46¾ cents, per oke of 2¾ pounds, it is now 20 piasters and still rising. The continuous decrease in the flocks and herds has a tendency to shorten the output of butter, and the price of that commodity has more than doubled within the past six or seven years, it now being 17 piasters an oke, equal to 21.4 cents per pound, with no indication that it will stop there. It would therefore appear that this is an especially auspicious moment to extend the sale of American vegetable fats in Syria.

There is a considerable sale of oleo oil in all the cities and towns along the coast, but up to the present all efforts to introduce it into the interior have proved practically futile. It is the opinion of the writer that these efforts have been but half-hearted, and that sufficient attention has not not been given to the details of the business, otherwise failure could not have been the result. One cause of this has been the fact that American exporters seem reluctant to deal directly with the local commission houses and others that are interested in the exploitation of this article, but, on the contrary, insist upon forcing them to purchase through agencies in Constantinople, thereby causing additional expense and compelling a division of the profits and making it not worth the attention of the local merchants. The main object should be to place it on the market at the very lowest price, in order to compete with the prices of the other articles usually employed.

Direct dealing and shipments to Alexandretta or Beirut, as the case may be, via Great Britain or Europe instead of via Constantinople should materially assist in meeting these conditions. Only first-quality oil, free from unpleasant odor and taste, should be offered. Aleppo is the headquarters of an immense territory inhabited by several millions of people, to whom many thousands of barrels of oil can be sold annually when once it is properly introduced, and no pains should be spared by American exporters to put it on the market at the earliest possible date. I would earnestly advise that the question be taken up with the various commission houses and other firms of this consular district, a complete list of whom is on file at the Bureau of Manufactures, and that samples be forwarded and prices quoted f. o. b. and c. i. f., Alexandretta and Beirut, the two ports of entry. Correspondence should be in French.

MEXICAN PALM OIL.

AN AMERICAN RESIDENT INVENTS APPARATUS FOR HULLING THE NUT.

Consular Agent Ezra M. Lawton, of Oaxaca, sends the following description of a new mechanism perfected in Mexico for handling palm nuts:

Among the industries which have attracted the attention of foreign residents in tropical countries for some years past is that which supplies palm oil. The business is probably receiving the most attention and development on the west coast of Africa. In an article on the subject appearing in the Scientific American of February 21, 1903, an interesting account was given of the tests made by Doctor Preuss of the process then in vogue of extracting the oil from the nut, and of the failure to get any satisfactory degree of efficiency in the crude methods employed. As an industry, according to the report of Consul Yerby, of Sierra Leone, during the year 1907 the gross product was valued at about $2,500,000 from Sierra Leone alone. This should be an incentive for devising a more efficient process for the preparation of the oil.

The Mexico tierra caliente or low lands offer a rich field for this work. For several years past Mr. B. W. Elder, an American resident of Oaxaca, has been endeavoring to perfect a machine for hulling the nut and then breaking the hard shell without disturbing or fracturing the kernel, at the same time automatically extracting the oil from the outside pulp, and in general to separate the refuse matter and to secure the greatest possible oil extraction from the nut.

DESCRIPTION OF THE MACHINE.

This was made more complicated because there are several varieties of the palm-oil nut. These are of different size and shape. The problem was to construct a machine that would take care of any of these, and also that would be light in weight for transportation from place to place. There is little doubt that Mr. Elder has succeeded in building a practical machine for this purpose, and is negotiating with S. Pearson & Son, the oil manufacturers of Mexico, for the use of his apparatus.

The general features of the machine are quite simple. A hopper receives and feeds the nuts through a set of rolls, which by simple friction effectually removes the outside pulp or husk. The hulled nuts are automatically ejected and the oil extracted from the pulp by pressure, the refuse or waste pulp being then ejected in a similar manner. In another machine the hard nut is automatically grasped and held in position while the shell is neatly cut in half without in the least disturbing the kernel, making it possible to remove the kernel in one piece and eliminate the shell with no danger of the latter getting into the press later, which would break the mechanism used for expressing the oil.

Consul Yerby, in a recent report, asked that inventive Americans contrive such a machine to take the place of the hand process now in vogue in Africa. The invention described will no doubt answer the purpose. It is suggested, however, that correspondence be entered into in order to settle positively that the mechanism is entirely suitable for those varieties of the nuts not found in Mexico.

FOREST PRODUCTS.

CHRISTMAS TREES.

GERMANY.

BUSINESS METHODS IN FORESTRY FOR SUPPLYING THE EVERGREENS.

Consul H. J. Dunlap, writing from Cologne, says that the custom of having an evergreen tree at Christmas is universal in Germany, and the family that does not have a tree of some kind must be very poor. The consul describes the scientific methods used in supplying Christmas trees:

It is safe to say that of the 6,000,000 families in the German Empire 5,500,000 purchase a tree. As a rule these evergreens are spruce, which grow in all sections of the Empire. The planting as well as the cutting of trees is all under control of the government officials, and it may be said without fear of contradiction that there is not now an evergreen growing in Germany that was not artificially planted. In the initial stage the young plants are set in rows about 4 feet apart with the plants 1 foot apart in the row. As the trees develop, they are gradually thinned. When 1 foot high many are transplanted into pots and form miniature Christmas trees.

IMPORTANCE OF THE INDUSTRY.

The great mass of trees offered for sale are from 2 to 10 feet high, the medium sizes being used most, and cost at retail from 15 cents to $1, the average price being about 35 cents. It is probable that nearly if not quite $2,000,000 is paid for Christmas trees in Germany, and an equal or greater sum for flitter, candle holders, glass, and other decorations.

But for this Christmas demand for trees the forest plantings would have to be made farther apart, or the trees cut out in thinning while small would have to be thrown away. This thinning is continuous until the trees have attained a size suitable for sawing purposes. The thinnings are used for fork and hoe handles, grapevine stakes—the end placed in the earth being first chemically treated to prevent rotting—hop poles, bean poles, scaffoldings, etc.

It will readily be seen that the owner of a forest does not have to await the maturity of his forest before realizing an income from it. In the economy of cultivating a forest every twig is saved, and even the leaves are raked up and sold. To most Americans this may seem profitless work, but to the German, who is used to practicing economy and frugality in all lines this is part of the earnings of the estate. Old people and children find useful employment in doing such light and easy work, and adding to the family income instead of sitting in idleness, as they might otherwise do.

AUSTRIA.

CUTTING OF PINE TREES IN BOHEMIA.

Consul Joseph I. Brittain, of Prague, wishes to correct an impression in the United States that the extent to which Christmas is observed in Austria will eventually denude the pine forests, or at least injure many of the growing trees. He writes:

Upon investigation I find that the indiscriminate cutting of Christmas trees in the Bohemian forests is not permitted. The greater number of Christmas trees are cut from estates of large landowners, who plant the trees for the express purpose of selling them at Christmas time. These trees are cut when they are from 10 to 15 years old. In addition to this source of supply, some trees are cut from the overcrowded sections of the public forests.

About two to three weeks before Christmas dealers bring the trees to the city and establish market places for them along the streets and in the numerous public squares. No tree is permitted to be sold until the vendor produces a certificate from the landowner stating that the tree was legally obtained.

It is estimated that 180,000 Christmas trees were sold in Bohemia last December. These trees sell at various prices, according to size and symmetry; some small ones purchased by the poorer class of people sell as low as 10 cents each, while the larger and finer quality of trees sell for about $2 each. In addition to the natural trees sold, there are thousands of artificial trees sold at the shops throughout the city.

UNITED STATES.

HOW THE YULETIDE MARKET IS SUPPLIED.

The Forest Service of the Department of Agriculture supplies the following information in regard to the Christmas tree trade in this country:

The United States consumes annually not less than 4,000,000 Christmas trees. There is little doubt that the present indiscriminate cropping every year of many young evergreens for Christmas trees has produced in many cases a bad effect on the future timber supply of these merchantable species. If the woodlands were under a proper forestry management no harm would be done, for the yearly thinnings from the forests would satisfy even a greater market demand for Christmas trees than now exists. One frequently finds in Maine and the Adirondacks, the principal sources of supply of Christmas trees, as many as 50,000 to 100,000 young seedlings on an acre. The use of small evergreens for Christmas trees offers, therefore, a most splendid opportunity for the improvement of the forest by thinning.

Every winter at the time Christmas trees are beginning to be in demand, thousands of spruces and balsam firs are cut throughout Maine, New Hampshire, Vermont, and New York for lumber and pulp. The trees are never taken below 4 inches in diameter in the top. Thousands of the tops of spruces and balsam firs are consequently left every year in the woods to rot and serve as fuel for fires, when they would make most splendid Christmas trees, especially for such as are used in churches and Sunday schools.

Practically all conifers can be and are used as Christmas trees, but the most popular ones are the firs, spruces, and, to a less extent, the pines and cedars. The use of one or another evergreen for this purpose depends frequently upon its accessibility, particularly in the mountainous sections of the country. Thus, for instance, in Colorado, where fir is abundant but grows at high altitudes and therefore is difficult to get out, the lodgepole pine, growing at the foot of the mountains, and the Douglas spruce are more frequently used than the fir. The latter is undoubtedly the Christmas tree par excellence, especially in the northeastern and Lake States.

The spruces vie with the firs in popularity as Christmas trees, but as a rule in the South and West they grow at high altitudes which makes them also difficult to get at, and are therefore substituted by less suitable but more accessible conifers. Black spruce is the tree most seen in New York and Philadelphia. Throughout the States of Illinois and Ohio nurserymen supply the local demand with nursery-grown Norway spruce.

The pines are in great demand for Christmas trees when fir and spruce are not available, or are only to be had at a high price. Throughout Maryland, Virginia, and in Washington the scrub pine (*Pinus virginiana*) finds a way into many homes for use in this capacity; while in southern Wyoming the lodgepole pine is almost the only species available for Christmas trees.

In California it is not uncommon to find incense cedar (*Libocedrus decurrens*) and redwood used as Christmas trees.

HOW THE MARKETS ARE SUPPLIED.

The center of the Christmas tree industry lies in the big cities of the East. New York City and the New England States consume 1,500,000 trees, or nearly half of all the output. Maine, New Hampshire, the Berkshire Hills in Massachusetts, the Adirondacks, and the Catskills in New York are the sources of supply for New York, Philadelphia, and Boston, and even for Baltimore and Washington. The swamps of Michigan, Wisconsin, and Minnesota furnish the markets of Chicago, St. Paul, and Minneapolis.

The sizes of Christmas trees vary from 5 to 35 feet in height. Usually short-jointed, stocky trees with perfect whorls of branches at the base of each annual growth are the most sought for. The sale price varies, being dependent upon the demand and supply. Ordinarily small trees 5 to 6 feet tall are sold for 25 cents in the city markets, while a tree from 6 to 10 feet high brings $1 and more, according to its symmetry. Large, shapely trees are sold in New York City at from $5 to $30 apiece, and trees 35 feet high bring as much as $35 each. The average run of prices is from a minimum of 25 cents to a maximum of $5 for a tree. There is very little profit in the business for those who furnish the material. These are mostly farmers and owners of wood lots who look upon the trees as a gift of nature, and in selling them consider only the labor of cutting and hauling and not the labor and expense required to grow the trees. For trees which in the city bring 25 cents the farmers get about 5 cents or a stumpage of 2 cents. Trees sold in the city for $1.50 apiece bring them only 15 cents. This, of course, refers only to the large cities. In small towns the demand is supplied by the farmers directly, who cut down the trees and peddle them from house to house. When the market is not glutted the dealers make large profits (possibly 200 or 300 per cent on their outlay), but when the supply exceeds the demand they are apt to suffer losses and frequently resort to the destruction of many thousands of trees in order to keep up the price.

Balsam firs of the sizes used for Christmas trees can be raised in about fifteen years. Allowing for each tree a space 6 feet by 7 for a good development of the crown, there may be expected at this age over 1,000 trees of sizes varying from 8 to 15 feet in height on an acre. Such trees bring in the cities from $1.50 to $3, and should be worth on the stump at least 25 cents, or a gross revenue of $250 per acre for fifteen years, or over $16.50 per acre a year.

RUBBER PRODUCTION.

MALAYSIA.

LARGE MARGIN BETWEEN COST OF PRODUCTION AND PRESENT PRICES.

Consul-General Thornwell Haynes, of Singapore, in forwarding a newspaper clipping in which the present and future production of plantation-grown rubber is discussed, especially with reference to the British and Dutch East Indies, says:

In the Federated Malay States alone the capital invested in the cultivation of rubber is not far short of $15,000,000, the area planted exceeds 125,000 acres, and the total exports in 1907 were 885 tons of an approximate value of $2,275,000, and yielding an export duty of nearly $57,000.

Following are extracts from the article:

> When the 365,000 acres planted to rubber trees come into full bearing, which represents 300 pounds per acre, the output will amount to about 48,000 tons. It will require four or five years more for the trees to reach that stage of productiveness.
>
> It is considered that about $73,000,000 are invested in plantation rubber production in the British and Dutch East Indies. Of this total amount about $58,000,000 may be put down as British capital.
>
> In the following statement are given a few of the leading plantation companies, their output for 1907, and the per cent of dividends earned by each for the past three years:

Company.	Rubber production, 1907.	Dividends.		
		1906.	1907.	1908.
	Pounds.	*Per cent.*	*Per cent.*	*Per cent.*
Anglo-Malay	224,778	Nil.	18	20
Bukit Rajah	163,521	6	30	30
Cicely Rubber	43,695	5	15	37½
Klanang Produce	20,489	7½	15	12½
Linggi Plantations	110,740	4	15	20
Pataling	58,064	20	10	55
Selangor	120,524	20	40	41
Vallambrosa	275,281	Nil.	55	55

EXPORTS FROM FEDERATED STATES.

The export of rubber from the Federated Malay States during the month of November, 1908, was as follows: Perak, 45,669 pounds; Selangor, 208,382 pounds, and Negri Sembilan, 62,563 pounds. The total exports in pounds from January 1 to December 1, 1908, were, from Perak 393,515, Selangor 1,872,923, and Negri Sembilan 496,228. During the same period in 1907 the exports were, from Perak 224,746, Selangor 1,073,509, and Negri Sembilan 461,942 pounds. It is thus seen that Selangor has an increased output for the first eleven months of 1908 of 799,414 pounds, Perak of 168,769, and Negri Sembilan of 34,286 pounds.

BRITISH INDIA.

GUMMY SUBSTANCE SECURED FROM ABUNDANT NATIVE CACTI.

A report from Consul-General William H. Michael, at Calcutta, states that an Indian officer was shown a ball of raw substance by a forest officer of one of the native states of India which resembled in appearance gutta-percha or rubber in its raw state, with the following result of the incident:

The forest officer said it was from the common cactus, which grows wild in India, known as the *euphorbia.* Acting upon suggestions from the forest officer, a small quantity of the sap from the cactus was procured and boiled, which, however, did not coagulate until a small quantity of hydrochloric acid was added, when coagulation resulted. This experiment not being satisfactory, a larger quantity of the sap (about 2 pounds), which had been taken from the plant about six days, was experimented with. It had to be softened in hot water and was then churned in an egg whist. The effect was the same as the identical process would have on milk. In this crude way the globules were separated from the other matter. Proper centrifugal force would produce more satisfactory results. The latex was brought to the consistency of putty, which was tough and nonsoluble in water. The putty mass was then kneaded together with sulphur—six parts of the latex to one of chloride of sulphur—and the kneaded mass was allowed to stand 24 hours. The next step was to subject the mass to heat at 350° F. under pressure in a vulcanizer containing hydrated lime for 1½ hours. Great care was used in keeping the temperature even, which is necessary to success.

RESULTS OF EXPERIMENTS MADE.

The experiment demonstrated that as a rubber compound, both in appearance and adhesiveness, it was equal to rubber compounds on the market which are sold at 65 cents per small tin, and the cactus compound could be sold for 8 annas, or 16 cents. The experimenter says:

> To make the Chatterton compound for insulating purposes, take Stockholm tar one part; latex three parts, and resin one part. Heat these ingredients together until they mix perfectly over a slow fire, as all are inflammable. After the mixture is thorough pour into molds and allow to set, which will take place in a few hours. The composition thus produced is waterproof and is not affected by dampness.

The officer says that owing to the cheapness of the composition it would be most effective as a primary coating for any woodwork exposed to continued dampness. He says that it is his purpose to continue his experiments with the cactus sap on a larger scale, fully believing that a new and valuable commodity can be placed on the market. He makes this valuable suggestion to those using rubber tires: An adhesive solution for repairing motor tires may be made by dissolving the latex in pure naphtha, reducing it in this way to a thin paste, and using it in the usual way.

The cactus or plant from which sap was taken for these experiments is described in Watt's Dictionary of Economic Products of India as a "large, fleshy shrub common on rocky sides of the outer Himalayas from Koumourin, and at an altitude of 6,000 feet. The milky sap of this plant contains a large amount of gutta-percha."

The experiments also demonstrated the fact that coagulation may be secured by mixing the latex with ordinary lime juice. I mention this for the reason that it would be a cheap and easy way of experimenting with the juice of cactus found abundantly on the plains of many of the southwestern States and Territories. Should the sap of the American cacti prove available for the purpose described, it would open up a new and valuable industry. This consulate-general will be glad to connect anyone with the Indian officer in question.

BRITISH GUIANA.

EXTENSION OF THE BALATA GUM INDUSTRY.

The India Rubber World has the following from British Guiana in regard to the balata, a gum from the bullet or bully tree, which is used for insulating wires, etc.:

> The history and economy of the balata industry in British Guiana during the past year derive much of their interest and importance from the fact that the licenses have been extended from one, two, and three years to fifteen years, thus affording a more fixed tenure. This concession was made on the application of the holders of licenses, who hope that thereby capital will be attracted more readily. The weather was favorable during the year; operations were more extended; more laborers were employed, with the happy result that the export for the year has been larger than it ever has been. Colonel Link, who represents English capitalists, has been negotiating with a view of buying out a good many properties, and it is entertained that if he succeeds in amalgamating them he will put the industry on a sounder economic basis. There would be a saving in carriage and supervising expenses, and there is the probability that the management would be able to put up the price in England, where the demand for balata during the year has been moderately good. All has not gone well with the laborers, and the feeling is that the labor laws should be more stringent. Many of the best laborers have been attracted by promises of better pay to Surinam (Dutch Guiana). The balata exported during the calendar year 1908 amounted to 1,124,958 pounds, as against 991,280 in 1907. The exports for the past five financial years were: 1903-4, 531,399 pounds; 1904-5, 501,509 pounds; 1905-6, 550,691 pounds; 1906-7, 634,242 pounds; 1907-08, 973,269 pounds.

[The balata exports to the United States, declared through the American consulate at Georgetown, British Guiana, were in value $30,803 in 1905, $76,011 in 1906, and $198,482 in 1907. One-half the balata exports of the country is shipped here.—B. of M.]

FORESTS OF INDIA.

OPPORTUNITIES FOR THE MANUFACTURE OF PULP AND TURPENTINE.

The following report has been prepared by Consul-General William H. Michael, of Calcutta, from information furnished by Mr. Barrington Moore, of New York, who has been in India for the study of its forests and incidentally their properties as pulp and turpentine producers, and who acknowledges his indebtedness for valuable data to Prof. R. S. Troup, of the Imperial College, Dehra Dun, United Provinces:

It has been demonstrated by numerous experiments in Europe as well as in America that the pulp possessing the best fiber for paper and the most practicable to make is that derived from the wood of the spruce and fir. In India there are a spruce and fir which yield as good paper pulp as any in Europe or America, as has been amply proven by experiments. Large quantities of this timber in India will run 4 and 5 feet in diameter, 4½ feet from the ground, and 150 to 200 feet in height. They not only do not use a stick of this, but even in some places they girdle it and allow it to rot, just to favor a few poor deodars (cedrus deodara) growing under it. The reason for this is the difficulty of securing the timber, which could be overcome by energy and enterprise.

The difficulty of removing the timber is due to the extremely rugged nature of the country, the steep slopes and gorge-like valleys rendering the construction of railroads or even cart roads so expensive as to be practically out of the question except for very large operations.

ADVANTAGES OF A PULP INDUSTRY.

Though the amount of material obtained per acre would be small, on account of the forest conservation by the government, this could be overcome by locating the mill on one of the main streams, such as the Jumna or the Tons, or preferably at their junction, so as to tap a large area. From there the manufactured product, either pulp or finished paper, could easily be shipped by rail. The difficulty of the number of small operations, required by the conservativeness of the forest management, would be overcome by the extreme cheapness of the labor. Felling, with the crude tools used, costs less than 50 cents per 1,000 feet, board measure, and carriage by coolies costs about 2 cents per cubic foot per mile. The rolling down hill would cost practically nothing. In comparison with the wages in the United States, unskilled laborers (coolies) receive 8 cents per day and sawyers 12 cents and board themselves.

The advantage which the industry would enjoy would be an absolutely assured and permanent supply of raw material, on account of the conservative management by the government of the forests from which the material is derived and the favor and help of the government in forwarding the enterprise, which is only too anxious to have it succeed so as to furnish a market for the spruce and fir, which is at present rotting and going to waste. Another advantage, especially important for an industry in India, is the favorable climate. On account of the elevation at which the tree occurs the climate is such that the work can be carried on by white men, without danger of illness or impairment of efficiency, all the year round.

Here, then, is an opportunity of developing an industry which would be not only extremely profitable but absolutely sure and permanent when once started, and one which would enjoy the greatest favor and help, in every possible way, of the government of India.

TURPENTINE INDUSTRY.

The making of turpentine in India offers even a more inviting field for enterprise than the pulp industry, because it has been tried long enough for all the figures and details to be fully known. Turpentine in India is derived from the chir, or long-leaf pine, which very much resembles the American long-leaf pine, from which the main supply of turpentine of the world is derived and which is rapidly disappearing. This tree occurs in different parts of the Himalayas at elevations of from 3,500 feet to 7,000 feet. It is worked in several localities, but most at Bohwali, near Naini Tal, in the United Provinces. Here the government has been tapping and distilling since 1900. The work of tapping is well organized, and the distillery is fitted up with most of the modern improvements. From 1 maund (82 pounds) of crude resin 1½ gallons of turpentine is obtained and 53 pounds of resin. This yields a profit of $1.30 per maund. It takes about 7 trees to produce a maund in a year, thus giving a profit of 19 cents per tree per annum. This comprises everything except interest on the capital. In the Bohwali region there are more than 300,000 trees available.

The government is now trying to sell out, because its policy has always been to encourage a new industry by undertaking it itself and demonstrating that it is profitable, then stepping out and giving it over to private enterprise, because it wants every industry in the hands of private individuals as far as possible.

Here, then, is an opportunity to buy up an industry already developed, the profit of which has been clearly proven, and one which is bound to increase in value and size, because it has only just passed the experimental stage; and they are still tapping much more slowly and conservatively than there is any need for. The thing could probably be bought out very cheaply from the government and would prove a good investment for anyone with experience in the American turpentine forests. Labor is also very cheap and the climate extremely healthy and invigorating.

NEW MEXICAN WAX PLANT.

DISCOVERY THAT THE CANDELILLA PLANT IS A WAX PRODUCER.

Consul P. Merrill Griffith, of Tampico, reports as follows concerning the anticipated importance of the discovery that a superior quality of wax, in paying quantity, can be extracted from the candelilla plant, which grows freely throughout a large portion of Mexico:

It has been recently discovered that the candelilla plant contains wax of an excellent quality and of sufficient proportion to make it extremely valuable. The plant, the botanical name of which is *Pedilanthus pavones euphorbiacer*, is found growing in the following States: Tamaulipas, Coahuila, Nuevo Leon, Chihuahua, Durango, Zacatecas, Sonora, Sinaloa, Baja California, Jalisco, Pueblo, and San Luis Potosi.

In a recent issue of the Monterey News the plant is described as growing to a height of from 3 to 5 feet, in the shape of stalks without leaves or thorns, as many as a hundred stalks springing from the same root. The stalks are about a quarter of an inch to a half inch in diameter. From an acre of land may be cut from one-half to two tons of weed a year. The plant also contains rubber, but not sufficient to make its extraction profitable. In wax, however, it contains a high percentage, averaging from 3½ to 5 per cent.

PROPERTIES OF THE WAX.

The wax is of light color, very hard, and has a high melting point, which places it in the front rank of all vegetable wax. Purified, it will make the best quality of candles, lasting, and giving a brilliant light. Dissolved in turpentine it makes an excellent varnish and it is also used for the manufacture of shoe polish. It is said to give more luster than the high-priced Carnauba wax from Brazil, which is at present exclusively used for the latter purpose. Purified and molded into phonograph records, the Candelilla wax will register the sounds perfectly. Successful tests have also been made with reference to its adaptability for the insulation of electric wires. Another use for this wax would be its substitution for beeswax in pharmaceutical laboratories, where its hardness and higher melting quality in the manufacture of plasters and ointments, where beeswax is now the principal ingredient, would make it especially serviceable.

This wax can be bleached perfectly white, and burning it gives off an agreeable odor.

EXPECTED TO PROVE AS VALUABLE AS THE RUBBER PLANT.

Only a few years ago it was discovered that the small and what was then considered worthless Guayule plant contained rubber, and many interesting articles have appeared from time to time in the Consular Reports relative to the growth of this plant and its manufacture and commercial value. This discovery of rubber has resulted in the reclamation of large stretches of arid territory in Mexico and the sudden enhancement of the value of all lands upon which the weed happened to grow. The plant has brought as high as $150 per ton; its present market price is $100. Guayule land owners have become wealthy, and about $50,000,000 have been spent in this industry up to the present time.

It is reasonable to presume that this recent discovery of wax in the Candelilla plant will result in a new industry being established in Mexico which may equal that of the Guayule rubber; in some respects it has a decided advantage.

Its growth is more extensive and abundant, the proportion being about 20 tons of Candelilla to 1 of Guayule. Furthermore, the process of manufacture of wax is simple, and the large amount of money spent in the purchase of expensive machinery for the manufacture of rubber can be dispensed with. It is said that a factory with a capacity of 1,100 pounds of wax a day can be installed for $2,500 gold.

The abundant supply of the plant, the cheap cost of production, its excellent quality, and a good demand, on account of its various uses, make it an industry worthy of investigation and study, the future development of which will, without doubt, prove to be most attractive and profitable.

SOUTH AMERICAN IVORY NUTS.

MANNER OF COLLECTING AND SELLING—PRESENT QUOTATIONS.

Inquiries having been made for further information concerning the supply of ivory nuts, Consular Agent George D. Hedian writes from Esmeraldas, Ecuador, as follows:

As the tagua palm, growing without cultivation, covers large districts in a strip of land lying along the coast from Peru through Ecuador up into Colombia, there is some difference in the form and texture of the ivory nut which is the fruit of this tree. In the Province of Manabi the nut is smaller, more compact, and less liable to have holes in the center than the fruit found in the Province of Esmeraldas, where there is a greater rainfall and where the nut is larger.

However, if only matured nuts are gathered and all faulty fruit rejected before shipping, the differences in quality would not prove a serious matter to the manufacturer. The bulk of what is considered bad quality of ivory nuts is only the careless mixing of unripened nuts and also nuts damaged by lying long ungathered with the properly matured nuts gathered at the right time. The nuts are first picked into baskets from the ground, where they lie scattered about by wild animals that eat the pulpy husk which inclosed the fruit when it dropped from the tree. If the nuts are scarce on the ground and there are plenty of the unmatured clusters still clinging to the trees, the peon takes the risk of detection and punishment by cutting down the trees to fill the basket with the unripe fruit, or he may chance upon nuts that have accumulated, unseen for several years, and the baskets receive them, good and bad. The picker concerns himself chiefly as to quantity. He is, as a rule, in debt to the party to whom he is obliged to deliver the nuts; his principal may be the landowner or a local merchant, who is also indebted to a commercial exporting and importing firm that has furnished money and merchandise on credit to be paid for in ivory nuts, rubber, or other products.

MARKET PRICES AND METHODS OF SHIPMENT.

The local market price per hundredweight is governed chiefly by the competition of exporters, based, of course, on the market price in Europe or the United States. Some German firms practically control the European market price by storing their stocks and only disposing of such quantity as can be sold at a satisfactory price. Such firms are represented by branch houses in the tagua districts, where the nuts are selected for shipping. In some cases the nuts are not only carefully inspected, but the thin shell is removed, thus practically insuring the quality, because only sound nuts can go through the process.

The Government collects an export duty on ivory nuts amounting together with other expenses to about $25 gold per ton, which the shipper must pay. From these facts it can be understood that there must be a wide difference in the price of ivory nuts in the local market and the price in the European or American market after export duties, expenses, freight, commissions, warehousing and profit, if possible, are included. The price in the European or American market does not always represent a profit to the exporter who ships to commission merchant or broker through whom he buys merchandise. Many shippers of this class lost heavily a few months ago during panic times and the abrupt drop in prices.

The manufacturer who desires to be secure as to the quality of the nuts can not expect that the price will be as low as that of the unselected product in the general market. There are firms in New York that make contracts with local buyers for selected nuts. The prices paid in the market here for the selected nuts are $4 and $5 gold more per ton. The New York firm advances money to the local buyer for the purchase of nuts, selected, at a price agreed upon, which is arranged by cable, and covers a certain quantity or certain time.

A list is forwarded of the firms who export ivory nuts and the New York firms to which shipments are consigned. [These addresses may be otained from the Bureau of Manufactures.] The exporters are at present paying 24 and 25 reals per hundredweight for tagua as it is brought in, and 30 reals, or 3 sucres, per hundredweight for the selected nuts. Exchange is at present at the rate of $1 gold, equal to 2 sucres and 1 real.

RUSSIAN TURPENTINE INDUSTRY.

CURTAILED EXPORTS LAST YEAR—ENGLAND THE BEST MARKET.

Consul James W. Ragsdale, of St. Petersburg, supplies the following facts concerning the extraction of turpentine and rosin in Russia:

The press has lately drawn the public attention to the crisis in the Russian tar industry. Thousands of the inhabitants of the northern, eastern, western and Vistula provinces are employed in the tar industry; for instance, 75 per cent of the inhabitants of the Shenkur district are occupied in the preparation of turpentine and pitch. According to statistical data for 1902 there were 1,374 refining furnaces in the Archangel province. Rosin is exported in large quantities, the past year having only shown a tendency to decrease, as per following table for the first 8 months of the past two years (ruble=51.5 cents):

Exports.	1907.	1908.
	Rubles.	*Rubles.*
Turpentine	1,949,000	1,292,000
Rosin	743,000	438,000
Tar	634,000	440,000

The chief cause of the small output of turpentine and white rosin, notwithstanding the abundance of raw material and cheap labor, is the lack of technical knowledge. Better results are obtained in the western and Vistula provinces, where turpentine and rosin are manufactured in large quantities and find a good market abroad. The following comparative table of turpentine oil imported into Great Britain for recent years shows that Russia is gradually increasing its export in this line (English cwt.=112 pounds):

From—	1903.	1905.	1907.	1903.	1905.	1907.
	Cwt.	*Cwt.*	*Cwt.*	*Value.*	*Value.*	*Value.*
Russia	56,304	68,754	93,219	$292,744	$326,624	$521,453
France	14,816	28,154	19,771	135,147	275,059	212,169
United States	460,324	424,892	389,828	4,556,672	4,733,610	3,963,920
Other countries	1,650	4,879	7,490	13,597	38,784	47,104
Total	533,094	526,679	510,308	4,998,160	5,374,077	4,744,646

PRESERVING RAILWAY TIES.

SUCCESSFUL TREATMENT IN MEXICO BY THE EBANO OIL PROCESS.

Consul W. D. O'Shaughnessy, of Aguascalientes, furnishes the following information concerning the successful treatment of railway ties in Mexico:

The local tie-treating plant of the Mexican Central Railroad has reached an output of 3,500 ties per day, making it one of the largest concerns of its kind in the world. The local plant is the first in the history of railway operation to make a success of the treatment of ties by the Ebano oil process. It is expected that the treatment will prolong the life of each tie from eight to twelve years.

The process consists of placing the ties in huge cylinders, which are then filled with oil and subjected to heat and pressure. After seven

hours the oil is forced out of the cylinders and the ties removed. The average tie treated here absorbs about 3 gallons of oil, which contains a large amount of solid matter, and it is this, after being forced into the wood, that acts as a preservative. The average penetration into pine ties is about 2 inches; in harder woods it is less; but in all cases the oil protects them from the water and will keep out moisture for years. The cost of the new treatment is said to be much less than the old treatment of zinc chloride. Most of the ties received here are pine, from the United States, but recently a shipload was received from Japan.

FORMOSA CAMPHOR EXPORTS.

CONSIDERABLE REDUCTION FROM PREVIOUS YEAR'S TRADE.

The following review of the Formosa camphor trade is by Consul Carl F. Deichman, of Tamsui:

The total amount of camphor exported in 1908 shows a decrease of over 1,000,000 pounds from the previous year, and is attributed to the increased activity in the camphor districts of China and Japan, and especially to the extensive use of synthetic camphor in various arts and manufactures in which formerly the natural camphor was used. This decrease was steady, notwithstanding the fact that the price of the natural product fell considerably.

The demand has slightly increased with the present year, 1909, but it is not likely that the amount exported will total the amounts exported in previous years from this island. The following table shows the export of camphor from Formosa during the year 1908, with the countries to which exported and the quantity and value to each in pounds and United States gold:

Countries.	Pounds.	Value.	Countries.	Pounds.	Value.
United States	1,365,910	$524,100	British India	3,990	$1,419
England	458,850	166,681	Japan	535,591	250,102
France	277,970	100,460			
Germany	58,200	19,522	Total	3,255,507	1,304,220
Hongkong	560,196	241,936			

METALS AND MINERALS.

MINES AND MINING.

BRITISH INDIA.

DEVELOPMENT OF THE COPPER MINES IN SIKKIM.

Consul-General William H. Michael, of Calcutta, furnishes the following information relative to the working of the new copper mines in Sikkim:

A number of copper mines in Sikkim, not far from Darjeeling, have been systematically developed during the last eighteen months, with most favorable results, under the direction of Charles Wilkinson, mining engineer. The ores occur in the form of copper sulphides, both in lodes and bedded deposits, which, although not phenomenally rich, are payable from a commercial point of view, averaging from 5 per cent to 10 per cent of copper throughout. The copper ores are found in what is known in Indian geology as the Daling beds of slates and schists.

Systematic development has disclosed several payable lodes at the Bhotang mine, and the bottom of the winze, 400 feet below the outcrops on the hill, is reported to be a payable sulphide lode of 4 to 5 feet in thickness.

Another rich sulphide lode, Dik Chu, has been traced for several hundred feet, and a tunnel driven on the strike of the lode into the hill disclosed payable mineral for the whole distance.

Altogether, close on 65 acres have been taken up, making a total of nearly 8,000 acres, which will be increased to 32 square miles of country, in every half square of which is a copper deposit or lode, all held in leases and prospecting area under Indian government regulations.

Rights have been secured for water power, timber for charcoal making, and mining and building on most favorable terms. Labor is cheap and most efficient, the miners being mostly of the Mungar caste, who have for generations worked the surface for copper. The surfaces of the best mines are honeycombed by old workings; but, with the primitive tools used, little headway was made in the rocky gangue, and the native miners stopped work when, as the Indian government geologist states, it began to be most profitable.

There is a good cart road to the principal mine from the Siliguri Railway, 45 miles distant. There is cheap and unlimited water power for running all the machinery, lighting, concentration, smelting, overhead ropeways, rock drills, etc. There is cheap and unlimited mining, building, and charcoal timber, and splendid building stone, and cheap and efficient labor. It is anticipated on most reliable information that all the copper smelted will be sold in India.

LEAD AND IRON ORE IN BURMA.

PROSPERITY EXPECTED TO FOLLOW OPERATION OF SMELTERS.

In stating that lead mining in Upper Burma is expected to show tangible results in the immediate future, Consul E. A. Wakefield, of Rangoon, adds:

Transportation of lead ore by rail from the mines to Manpwe, near Mandalay, was begun in December, 1908. At Manpwe a large reserve stock of ore is being accumulated. On January 17 the Burma Railway put four trains into service to be used exclusively for hauling lead and iron ore to Mandalay, where the smelters have just been completed.

The mines and smelters are owned and operated by The Burma Mines (Limited), and preparations are completed for the immediate operation of the smelters to their full capacity. This marks the inception of the first mining and smelting of the baser metals of any consequence in Burma, and it is expected that one of the features will be the revival of Mandalay's declining prosperity.

CANADA.

INCREASE IN PRODUCTION OF COAL—IMPORTS OF IRON ORE.

Consul-General William Harrison Bradley, of Montreal, forwards the following report on mineral production in Canada:

In the following statement are given the quantities and values of mineral products of Canada for 1908, as reported by the Minister of the Department of Mines before a meeting of mining engineers in the city of Montreal:

Classification.	Quantity.	Value.
METALLIC PRODUCTS.		
Copper..........pounds..	64,361,636	$8,500,885
Gold....................	....	9,559,274
Pig iron from Canadian ore...............tons..	99,420	1,664,302
Lead............pounds..	45,725,886	1,920,487
Nickel.............do....	19,143,111	8,231,538
Cobalt.............do....	1,853,286	112,253
Silver...........ounces..	22,070,212	11,667,197
Total....................	....	41,655,936
NONMETALLIC PRODUCTS.		
Arsenic............tons..	699	38,054
Asbestos...........do....	65,534	2,547,507
Asbestic and asbestic sand............tons..	25,239	25,829
Calcium carbide...do....	6,864	417,150
Chromite..........do....	7,225	82,008
Coal...............do....	10,904,466	25,567,235
Corundum.........do....	1,039	100,389
Feldspar...........do....	7,877	21,099
Graphite...........do....	251	5,565
Grindstones........do....	3,843	45,128
Gypsum............do....	340,964	575,701
Limestone for flux, in iron furnace.....tons..	418,661	289,705
Magnesite.........do....	120	840
Mica....................	....	191,602
Barytes............tons..	4,091	18,265
Ochers.............do....	4,746	30,440
Mineral waters..........	....	109,391
Natural gas.............	....	1,012,060
Petroleum......barrels..	527,987	747,100
NONMETALLIC PRODUCTS—continued.		
Phosphate (apatite) tons..	1,596	$14,794
Pyrites.............do....	47,336	224,824
Quartz.............do....	27,134	32,277
Salt................do....	79,975	378,798
Talc................do....	276	3,048
Tripplite..........do....	30	197
Total....................	....	32,479,006
STRUCTURAL MATERIAL AND CLAY PRODUCTS.		
Cement, natural. barrels..	1,044	815
Cement, Portland..do....	2,655,289	3,709,063
Flagstones..............	4,000	3,600
Sand and gravel (exports)............tons..	298,954	161,387
Sewer pipe..............	....	514,042
Clay products, stone, lime, etc. (estimated)..	....	8,500,000
Total....................	....	12,888,907
All other nonmetallic....	....	32,479,006
Total value, nonmetallic..............	....	45,367,913
Total value, metallic..............	....	41,655,936
Mineral products not reported............	....	300,000
Total value, 1908...	....	87,323,849

The total production of pig iron in Canada for 1908 was 630,835 short tons, valued at $8,111,194, of which it is estimated about 99,420 tons, valued at $1,664,302, should be attributed to Canadian ore, and 521,416 tons, valued at $6,446,892, to the ore imported.

ONTARIO.

INCREASE IN METALS—DECREASE IN OTHER MINERAL PRODUCTS.

Consul Harry P. Dill, of Orillia, forwards the following report on the mine productions of the Canadian Province of Ontario:

According to information given out by the Department of Lands, Forests, and Mines, the total value of mineral production of the Province of Ontario for 1908 was $25,219,000. The figures show an increase in metalliferous mines and works of about $200,000, while the nonmetalliferous productions show a shrinkage, chiefly in crude petroleum and building material. The output of natural gas was much larger than in 1907.

The cobalt silver mines produced 9,000,000 ounces more silver than in 1907, but its market value per ounce was lower than in former years. In all, 24,485 tons of silver were shipped from the mines, nearly two-thirds of which was treated in the United States, a small amount going to Europe, while the balance, less than a third, was treated in Canada. This latter was nearly all high-grade ore. The lower grades shipped to the United States are mixed with other ores.

In the following comparative statement are given the values of the various metallic productions for 1907 and 1908:

Classification.	1907.	1908.	Classification.	1907.	1908.
Cobalt	$92,751	$110,166	Nickel	$2,271,616	$1,866,059
Copper	1,045,511	1,071,140	Silver	5,927,858	9,125,903
Gold	66,399	60,337			
Iron ore	471,126	536,369	Total	14,592,118	17,160,813
Iron, pig	4,716,857	4,390,839			

The great difference between the values of iron ore and pig iron is due in part to the fact that imported ore entered into the production of pig iron.

In the following statement are given the values of the leading nonmetallic mineral productions of the Province for 1907 and 1908:

Classification.	1907.	1908.	Classification.	1907.	1908.
Brick, tile, clay, etc	$2,760,687	$2,600,000	Mica	$82,929	$73,586
Cement, Portland	2,610,698	2,417,769	Petroleum	1,049,631	703,773
Calcium carbide	173,763	147,150	Salt	376,621	488,330
Gas, natural	756,167	969,160	Stone	675,000	475,000
Lime	412,000	357,050			

JAPAN.

THE WORKING OF THE MANGANESE MINES OF THE KINGDOM.

Consul John H. Snodgrass, of Kobe, reports as follows concerning the extent, workings, and value of the manganese mines of Japan:

Manganese is found in various provinces of Japan, the largest and most productive areas being mined in Hokkaido, Aomori-ken, and Kyoto-fu. The most important manganese mine in the Kingdom, however, is located at Owani, Mitsu Province, where manganite is also found. The latter occurs in cavities of other manganiferous ore masses, in slender prismatic crystals of a black color and high semimetallic luster.

In addition to the foregoing, the small islands of Oshima, Satsuma, and Sado produce small quantities of a superior quality, the major part of their products being exported.

In 1906 the value of the output of the manganese mines of Japan amounted to about $260,000, as compared with $40,000 and $18,000 in 1905 and 1904, respectively. Manganese exported from the Empire in 1907 was valued at $60,500, of which $10,400 worth went to the United States and $41,600 worth to Belgium, the remainder going to Hongkong, Great Britain, etc.

TRANSPORTATION—AMERICAN PURCHASES.

The ore is found in the mountains, usually near the top, and lying close to the surface. It is transported to the seacoast or railroad in baskets carried by the coolies. The greater part of the exported manganese is shipped by Suez; occasionally a cargo is sent by sailing vessels by way of Cape of Good Hope.

In years past local exporters enjoyed a splendid trade with the United States, but on account of the varying quality of the ore much dissatisfaction was occasioned, with the result that the business has been greatly reduced. It is stated, on authority, that the average grade of Japan ore is never above 50 per cent, which is acceptable here, while, according to local exporters, a standard of 80 per cent is required by the buyers in the United States.

A great increase in the price of manganese occurred in 1906, which was partly due to the development following the Russo-Japanese war, and partly to the increased cost of labor and the demand for the product. A reaction soon set in, and for the last eighteen months there have been few calls therefor from over sea.

American capitalists have made inquiries as to their ability to purchase or conduct mines in Japan, but the prospects do not appear flattering, owing to the rigidity of the local laws.

The minister of agriculture and commerce is empowered by the mining law of 1905 to permit, approve, cancel, or suspend the rights of mining and prospecting. For purposes of administration of the mining industry the whole country is divided into five districts, each under a mine inspection office. The area of a mining set must be: For collieries, not less than 41 acres; and for other mines, not less than 4 acres; nor exceed for mines of all kinds 490 acres. Japanese subjects and juridical persons, constituted conformably to the laws of the Empire, may acquire mining rights. Mining rights are classed as real rights to which the provisions relative to immovable property are correspondingly applicable and they are indivisible. They can not be made objects of rights other than those of succession, transfer, measures taken in consequence of nonpayment of national taxes, and execution, but the right of permanent mining may become the object of a mortgage. The duration of a right of prospecting is two years from the date of the registration thereof.

SPAIN.

NATIVE ENGINEERS PROTECTED AGAINST COMPETITORS.

Minister William Miller Collier, of Madrid, sends the following report relative to restricting the admission of foreign mining engineers for the exercise of their profession in Spain:

A measure such as the recent royal order protecting Spanish mining engineers from the competition of foreigners has been for some time under consideration. In a debate in the Congreso last November it was stated by one of the speakers that the total number of foreigners now practicing this profession in Spain was not in excess of 200, but in this figure were not included the many foreign engineers not engaged in mining.

The graduate of a foreign school of mining who now desires a license to practice in Spain must establish the validity of his diploma, show that he has practiced his profession for six years, and pay a certain sum (not yet fixed) for his license, which sum may not exceed the cost of a Spanish diploma. Under the former system it was only necessary for such a graduate to show that his diploma had been issued by some reputable school of mining and to have it approved by the Ministry of Fomento. [The full text of the law bearing on this subject is on file in the Bureau of Manufactures.]

GERMANY.

CONTINUED GROWTH OF THE POTASH INDUSTRY.

Consul-General Richard Guenther writes from Frankfort that the potash production of Germany at present represents about 750,000,000 marks ($178,500,000) of capital and employs 28,000 miners and work people. The yearly sales of potash are $24,000,000, the trade being controlled by a trust. In 1908 this combine added 9 new mining companies to its membership, while this year 13 new works will go into operation, and also controlled by the potash trust. Germany alone consumes for soil fertilization nearly half the potash salts annually produced. There has been much speculation among German investors in shares of potash-production companies.

RHODESIA.

DISCOVERY OF ANCIENT TIN MINES.

Consul Edwin N. Gunsaulus, of Johannesburg, reports the discovery of tin in Rhodesia, which experts declare to be the site of an ancient tin working. The ancient workers went down only 12 feet, but a shaft recently taken down 30 feet disclosed traces of copper and tin, and it is thought possible that the ancients worked for both metals, out of which they made bronze. The tin is found associated with iron and copper in chlorite of schist. At the bottom of the shaft a lode has been opened up 12 feet in width, and the values are one-half of 1 per cent of tin and 3 per cent of copper. The formation is the same as the Herberton tin fields in Queensland.

FOREIGN COAL TRADE.

CANADA.

RECENT SURVEYS OF THE CROWS NEST PASS COAL FIELD.

Consul F. C. Denison, of Fernie, furnishes the following information relative to recent surveys and estimates as to the extent of the Canadian northwestern coal field:

The territory which embraces the Crows Nest Pass coal field is divided into two nearly equal parts by the Alberta-British Columbia boundary line, which follows the summit of the Rocky Mountains from southeast to northwest. The eastern half is mostly prairie, after the foothills of the mountains are left, but the territory to the west of the summit is much rougher as far west as the Kootenai River, which flows at the western foot of the Rockies.

The coal field as now known to exist extends from the Elk River on the west to the foothills on the east of the mountains, and from Morrissey, 9 miles south of Fernie, on the south to Bankhead, near Banff on the north. A straight line drawn from Morrissey easterly for a distance of 35 miles would reach the eastern extremity of the coal field as now established.

According to authentic reports made by Doctor Dawson and Mr. James McEvoy, of the Canadian geological department, the coal beds as measured at Morrissey comprise a total thickness of over 200 feet, distributed in layers of from a few inches in thickness to 30 feet. These seams are interspersed through a stratum of rock, shale, and slate, which, with the coal seams, forms a total of 4,736 feet. Of this total of more than 200 feet of coal, Mr. McEvoy estimates that over 100 feet is workable and marketable coal. In this calculation he takes no account of coal seams of less than 3 feet in thickness. Since these reports have been made explorations and developments up the Elk River have demonstrated that these measures extend at least 75 miles to the north of Morrissey, and as nearly as can be determined, they hold their relative positions and maintain their thickness and quality.

The thickness of the strata through which they are distributed, however, seems to diminish to the north and east, being reported as totaling 175 feet of coal in a stratum of 1,169 feet of slate, shale, and sandstone. A single seam of coal 30 feet, more or less, in thickness, has been located in this field at Morrissey, Coal Creek, 6 miles east of Fernie, at Hosmer, at Michel, at Corbins Camp, 20 miles south of Michel, at a point 75 miles north of Fernie, on the Elk River, and at Cat Mountain, on the east side of the Rockies, at a point where the Livingston River cuts through the range of the same name.

Other seams of 10, 15, and 17 feet in thickness have also been traced at these different points, and, though correlating in such a disturbed territory would be almost impossible, the above facts indicate a continuance of the same field over all the intervening territory.

The tremendous upheaval which formed the backbone of the continent, greatly disturbed the coal beds, standing them in positions ranging from a pitch of a few degrees to an almost perpendicular position. At Frank, in Alberta, the lime rock has been pushed entirely through the coal beds, and at Banff the coal seams are found between strata of lime rocks, indicating still greater disturbance.

ESTIMATED DEPOSITS.

Mr. McEvoy has estimated that there is over 20,000,000,000 tons of marketable coal in this field. But later developments have demonstrated that the extent of the field is very much greater than at first reported, so that the estimate of the coal territory may safely be doubled, giving the probable tonnage as well beyond 45,000,000,000. It is beyond doubt the most extensive field of coal in western North America, and lying as it does at the western edge of a vast territory of prairie lands, extending from Winnipeg to the Rocky Mountains and across their summit into the Pacific coast territory, accessible to the important cities and ports of the Northwestern States, it is destined to play an important part in the economic and industrial development of a great territory lying upon both sides of the international boundary, and extending from Winnipeg on the east to Portland on the west.

The quality of the coal is bituminous, generally, but at Bankhead, near Banff, a fairly good quality of anthracite has been mined, and at Morrissey a quality approaching semianthracite is found.

The bituminous coal, especially in the Fernie district, produces a good quality of coke, which, with improved methods of manufacturing, will equal, commercially, the coke produced in any other American field.

CHINA.

CHINESE COAL MINES AND HOW THEY ARE WORKED.

Vice-Consul-General Willard B. Hull, of Canton, transmits the following information, being a report by the commercial attaché of the British legation at Peking, concerning the coal mines of China:

Little is known concerning the operation of the Manchuria mines granted by Japan to the South Manchurian Railway Company. The fact that no coal from these mines reaches Newchwang indicates that their entire product is taken by the railway and local consumers. This coal is of excellent quality. A great deal of coal is mined by the Chinese in the province of Shansi. Coke made at one of these mines is used in the mint at Tientsin.

The three mines of the Chinese Engineering and Mining Company, northeast of Tientsin, produced nearly 1,000,000 tons in 1906. These mines supply the Northern Railway and steamers and local consumers throughout northern China and part of Manchuria.

In 1905 a mine in Honan, in which a vein 13 feet thick had been opened, was flooded so badly that it was necessary to send to England for additional pumping machinery. The coal of this vein proved too friable for use, but a vein of good quality 10 feet thick was found at a lower level. In 1906 the Shantung Mining Company extracted 163,000 tons of coal from its Fangtzu collieries. This company operates a briquette factory and one of the few coal washers in the Far East, with a capacity of 150 tons per hour.

In Kiangsi are hundreds of coal mines operated by the most primitive methods. Near the Hunan frontier, however, are mines operated under the direction of German mining engineers and connected with the Siang River by a railway 200 miles long. These mines were opened in 1908 for the purpose of supplying the forges and steel works of Hanyang, which had been greatly developed under German management. Their output, which can be increased to 3,000 tons per day, is now 1,000 tons, most of which is converted into coke. The main shaft is 13 feet in diameter and 375 feet deep. The veins are being worked at depths of 160 and 320 feet. The main gallery is 3,000 feet long, and

the hauling is done by electric locomotives. It is estimated that this district of Ping-siang contains 300,000,000 tons, of which the greater part can be extracted through galleries and the remainder can be reached by a shaft 650 feet deep. Attached to these mines are 174 coke ovens, a briquette factory, a fire-brick factory, a foundry, coal washers, etc. From the railway terminus at Chuchow the coal and coke are conveyed to Hanyang in towboats and junks. The Ping-siang Coal Mining Company has achieved a brilliant success in the face of enormous difficulties, and it deserves great credit for the introduction of European methods into a primitive land.

The following table of the annual production of coal in China is condensed from a table compiled in 1906 by Professor Drake, of the Imperial University of Tientsin:

Province.	Mines owned by Europeans.	Mines owned by Chinese.	Total.
	Tons.	*Tons.*	*Tons.*
Chili	1,200,000	1,000,000	2,200,000
Shansi		3,000,000	3,000,000
Shantung	300,000	500,000	800,000
Honan	100,000	700,000	800,000
Other provinces	230,000	1,860,000	2,090,000
Total	1,830,000	7,060,000	8,890,000

UNITED KINGDOM.

ANTHRACITE COAL EXPORTED TO ALL PARTS OF THE WORLD.

Consul Jesse H. Johnson, of Swansea, furnishes the following information concerning the efforts of the anthracite mine owners of Wales to extend their trade, even to the Atlantic ports of the United States, his report being dated February 11:

There is a slight depression in trade here, but inquiries for forward deliveries are good, and merchants in the coal trade are expecting a good year. Anthracite coals are still maintaining good figures, and it is well to note the advance this coal has made during recent years. Swansea is situated in the very center of the anthracite coal fields, which has, practically speaking, only just been tapped. The quality of the anthracite mined here is exceptionally good and invariably shows over 90 per cent carbon. The advent of the suction gas plant has boomed this particular trade wonderfully.

EXPORTS TO CUBA—CURRENT PRICES IN SWANSEA.

Anthracite is being exported from here to all parts of the world, and the latest markets that have been discovered by local exporters are Cuba and Canada. Strenuous efforts have been made to win markets in the United States, at ports on the Atlantic side, and enterprising shippers here are of the opinion that they could secure ocean freights at less cost than colliery people in Pennsylvania could send by rail. In a recent report to the department particulars were given of a shipment of anthracite washed "beans" from Swansea to Cuba. These beans are three-fourths to 1 inch in size, and well screened and washed. To-day a shipment of anthracite washed "nuts" 1½ to 2½ inches is leaving this port for Cuba. The consignment is one of 2,000 tons, the f. o. b. price is $6.20 per ton, and the rate of freight to Cardenas is $2.68 per ton. Like a former shipment, this one is made through a German house. The analysis of the above nuts would work out as follows: Carbon, 91.50; hydrogen, 3.59; oxygen and nitrogen, 2.34; sulphur, 0.78; ash, 1.79.

Current prices quoted here are as follows, per ton, less 2 per cent: Best, second, and inferior anthracite, large, $6.08, $4.86, and $3.16, respectively; machine-broken cobble, about 4 inches, $5.59; best nut, 1½ to 2½ inches, $6.08; best bean, ¾ to 1 inch, $4.14; best pea, $2.19; residue or duff, 55 cents. The duff is usually sold to briquette manufacturers, who mix it with bituminous coals.

The following are the ruling prices of manufacturing coals per ton, less 2½ per cent, and it will be observed that the low quotations are of great advantage to local factories and tin-plate makers: Steam through and through, as wrought, $2.49; steam small coal, $1.82; bituminous through and through, as wrought, $3.55; bituminous small coal, $1.82. The majority of local works use small coals.

NEW ZEALAND.

PRODUCTION, CONSUMPTION, IMPORTS, AND EXPORTS OF COAL.

In reply to a communication from a Pennsylvania civil engineer, Consul-General William A. Prickitt, of Auckland, furnishes the following information concerning the coal trade of New Zealand:

The following statement shows the coal production, consumption, imports, and exports of New Zealand during the years 1905, 1906, and 1907:

Year.	Production.	Consumption.	Imports.	Exports.
	Tons.	*Tons.*	*Tons.*	*Tons.*
1905	1,585,786	1,713,545	169,046	41,257
1906	1,729,536	1,874,358	207,567	62,745
1907	1,831,009	1,999,968	220,749	51,790

Of the imports for 1907 all but 23 tons came from New South Wales. The foregoing exports do not include coal taken for fuel by ocean steamships, which is entered in the consumption column and amounted to 77,240 tons in 1907. It was taken wholly by steamers trading between New Zealand and the United Kingdom.

The price of New Zealand steaming coal delivered on rail of vessel at Auckland is as follows per ton: Northern Coal Company, $4.38; Westport Coal Company, $5.84. The mines of the first company are only 38 miles from Auckland, but the Westport mines are on the west coast of the South Island, and transportation to Auckland is included in the foregoing price.

The following is an analysis of 14 samples of average New Zealand coal: Fixed carbon, 58.11; volatile hydrocarbon, 35.65; water, 2.40; ash, 3.56; sulphur, 0.28; total, 100. Evaporative power, 14.70 per pound of coal.

URUGUAY.

GOVERNMENT ENCOURAGEMENT FOR DEVELOPING NATURAL RESOURCES.

From Montevideo Consul Frederick W. Goding sends the information that the policy of the Government of Uruguay is to give encouragement to all who desire to develop the country's natural resources. He mentions the opportunity now presented for boring for petroleum.

Some time ago reasonable proof as to the existence of coal within the territory of Uruguay having been furnished, the Government, after a careful inquiry, voted 25,000 pesos ($25,850) to further the private investigations being made and pledged valuable mining concessions as well.

The evidence of the existence of petroleum has been repeatedly given by scientists, who declare that it exists in a number of localities. It is now necessary to have practical borings made, which they insist will be followed by the discovery of petroleum in great quantities. Here is a promising field for American capitalists. Further data can not be given, but anyone desiring to investigate the matter may learn some valuable and interesting facts by addressing the person whose name is forwarded [which is obtainable from the Bureau of Manufactures].

KOREA.

THE KOREAN GOVERNMENT COAL MINES AT PYENG YANG.

Consul-General Thomas Simmons, of Seoul, furnishes the following information concerning coal mining and iron-ore deposits in Korea, the report being dated January 16:

The Korean Government coal-mining exploitation at Pyeng Yang is now yielding about 4,000 tons of lump coal per month. Next year 400 miners will be employed and the output will be increased to approximately 5,000 tons per month. This coal will be used in supplying the local demands. It is of superior domestic quality and cheaper than Japanese coal, which is now utilized in this market at from $5 to $8 per ton. The Pyeng Yang coal now retails for approximately $6.50 per ton in warehouses or $7 per ton delivered.

Inasmuch as there are extensive iron-ore deposits in Korea the development of coal deposits is considered of great importance in building up the industries of the Empire.

PRECIOUS STONES.

GERMAN SOUTHWEST AFRICA.

DIAMOND FIELDS THAT MAY RIVAL THE KIMBERLEY MINES.

Consul Thomas H. Norton, of Chemnitz, sends the following report on the interest Germany is taking in colonial diamond mining in Africa:

The German colony in southwest Africa, which has cost the motherland so heavily on account of the uprisings of the natives, is a region of pronounced mineral wealth. Its copper mines are already in full exploitation, and their yield will soon be a serious factor in the world's production. Iron and lead deposits are present, but thus far are of minor importance. Much interest has been awakened during the past year by the discovery of an extensive diamondiferous region. The location, near Lüderitz Bay, is easily accessible and hopes are cherished that the section may eventually prove to be a genuine rival of the famous Kimberley deposits in British territory, not far distant.

The character of the newly discovered deposits is, however, widely different from that of the peculiar "blue earth" of the great "pockets" in and near Kimberley. The diamonds of the German colony are found scattered in the coarse sand covering an extensive area, in company with agates and others of the more valued forms of quartz. For the most part they occur in the form of tolerably perfect octahedra, and are of the first quality. Their weight is, however, almost uniformly low, ranging from one-fifth to three-fourths of a carat. The average weight is one-third of a carat.

RECENT ACTIVITY—GOVERNMENT SUPERVISION.

The systematic treatment of the sandy soil to detect the scattered diamonds did not begin until September, 1908. Prior to that date about 2,720 carats had been collected in a desultory manner. Since then the yield has been as follows: For September, 6,644 carats; October, 8,621 carats; November, 10,228 carats; December, 11,549 carats. The total value of about 40,000 carats found is estimated at $269,000.

The Government has established regulations destined to protect and regulate diamond mining and to make it a distinct source of revenue to the colony. At present a tax of about 50 per cent is levied on the net profits of the new industry. Official measures will be taken to insure a proper protection of mining interests and to prevent noneconomic methods of exploitation. These measures will be extended so as to guard the value of the newly found stones and at the same time prevent any sudden fall in the value of diamonds.

Special efforts will be made to have the product of the colony come exclusively into the hands of German diamond cutters, and thus aid materially this growing branch of home industry. As diamond cutting involves on an average a wage expense of $3.60 per carat in Germany, this would mean, at the present rate of yield, the payment of at least $500,000 annually among the skilled cutters of the mother country.

CONTROL OF THE OUTPUT.

German financiers intend to profit from the experiences of the Kimberley diamond mines, and a company to assume charge of the entire exploitation of the new finds is now being organized on the lines indicated, under governmental supervision. It includes representations from 18 of the leading banks in the German Empire, chiefly Berlin houses. The capital is placed at $500,000, and it is planned to enter upon active operations as a syndicate by April 1, 1909.

Provision has been made, by an imperial order of January 16, 1909, for the complete centralization of the commercial side of the exploitation of the fields. This order authorizes the colonial office at Berlin to appoint a person or a commission, with exclusive powers for the marketing of diamonds found in the colony. All diamonds mined must be turned over to such designated authority for sale. The latter can limit, at discretion, the annual output, and exercise a similar discretion in making sales as to time and purchasers. The returns of all sales will be turned over to the owners of the stones thus sold, after deduction of a slight fee.

It is plainly intended to provide legally for an exceptionally close control of the whole production. The owners of nearly all the diamond fields are united in favoring the policy and are interested in the formation of the syndicate described. The only disturbing element in the execution of their plans is the purchase, in December last, by a British company, of the Kolmanstop fields, the most productive section of the diamondiferous territory. The price paid was $600,000.

EXPORT DUTY—MINING OPERATIONS.

The diamonds found in the colony pay an export duty of $2.38 per carat. It is proposed to replace this by a duty of 40 per cent on the value. Of this amount, 6⅔ per cent will fall to the mining bureau of the Colonial Society engaged in developing the mineral resources of the territory, and the remainder to the treasury of the colony. At current values, $6.66 per carat, the cost of mining and marketing the diamonds of this region amounts to about 30 per cent of the value. It will thus be seen that of the profit of 80 per cent, only one-half is to be realized by the miners.

The term "mining" is a misnomer in this connection. The method of securing diamonds in the new fields is very similar to gold washing on a placer deposit. The sand and gravel which form the surface sail are separated, by screening, into various portions. The portion of fine gravel is then placed in a sieve, and this is gently agitated in a tub of water. Diamonds present gradually settle to the bottom. The sieve and its contents are then reversed upon a table. On removing the sieve, a cake remains, from the top layer of which diamonds may be picked out. Thus far no capital for machinery, etc., has been required. Natives, under white overseers, carry on the simple operations. The results are variable, as in placer mining. Now and then patches of extraordinary richness are encountered where a trio of laborers secure 200 to 300 carats in the course of a day.

FORMATION OF DIAMOND FIELD.

The very novel form of occurrence in these diamond fields has naturally awakened great scientific curiosity. Geologists have, in rare instances, encountered elsewhere limited areas of sand containing well-formed diamonds unaccompanied by the minerals usually associated with this precious stone. But never before has the phenomenon been observed on a scale warranting industrial exploitation.

The diamonds are found in an irregular depression of a desolate region about 1 mile broad by some 30 long, stretching in an arc from Lüderitz Bay to Elizabeth Bay.

As in the case of placer deposits of gold, it is evident that the diamonds are remote from their place of formation, and inquiry has been rife as to their source. Those familiar with the geology of the Kimberley district have searched far and near in the hope of finding such a pocket or "pipe" as constitute the famous De Beers mine, from which the small stones have been removed by the play of the elements. No such visible source has thus far been detected.

THEORY OF A JOHANNESBURG EXPERT.

A high authority on the geology of diamondiferous deposits, M. E. Frances, of Johannesburg, has carefully studied the problem, and his conclusions may be summarized as follows:

> These diamonds are derived from fissures of Kimbertite, now possibly in the bed of the ocean. They are not wind-transported, save as they are blown with other small pebbles a few yards from one place to another. At the time when the land was under water these diamonds lay in fissures in the bed of the ocean.

The land slowly rose, and for a long geological period, and a comparatively recent one, the long depression was a shallow arm of the sea. From the south, where now is Elizabeth Bay, swept a strong current to the northern outlet, and in the shallow water the action of this current and of the waves deposited the diamonds in the sands. The lands then rose above the surface. The high winds have since blown the finer particles away, and the present gravel deposits where the diamonds are found represent the concentrated result.

This theory explains most satisfactorily the fact that diamonds are encountered in the surface strata only, and also accounts for the uneven distribution, and the phenomenal richness of occasional patches.

Every indication points to the conclusion that for some years to come these diamond fields near Lüderitz Bay will continue to yield enormous amounts of small but choice stones. There is but little prospect that any large gems will be found, and stones over even one carat will be rare, for fissure diamonds are invariably small and of uniform size.

ECONOMY IN GOVERNMENT CONTROL.

In view of conditions described, it is a wise move on the part of the German Government to restrict the output and control the selling price of the stones. Undoubtedly the sudden advent in the diamond market for a few years of practically unlimited quantities of small stones would cause a most serious slump in their value. By careful restriction and by extending the exploitation over a long term of years, the young and growing colony will eventually reap the full benefit of this unique mineral treasure.

The Kimberley mines in the neighoring British Colony have practised for some time a conservative policy in this direction, restricting the sale of certain categories of stones so as to prevent violent fluctuations in their value. It is highly probable that the controlling elements in both colonies will come to an understanding and work in harmony with respect to output and prices.

COLOMBIA.

CONTRACT FOR CONTINUED EXPLOITATION OF EMERALD MINES.

Consul Isaac A. Manning reports from Cartagena the announcement by the council of ministers in Bogota of a contract between the Colombian Government and an English syndicate for the continued exploitation of the Muza emerald mines near Bogota, and for the sale of emeralds for account of the Republic of Colombia. The particulars follow:

It is said that the syndicate is the same as that which controls the diamond output of South Africa, and it agrees to sell at least the value of $1,250,000 in gold per annum of emeralds, at prices higher than have been realized by the Government recently, for a period of twenty years, under the inspection of the Colombian Government.

This, together with the signing of the treaty with Panama and the United States, leads the Government at Bogota to prognosticate very much better economic and industrial conditions for Colombia, and will aid in bringing to the country funds for the continued development of its railway and other transportation lines and for the establishment of many new industries. It is also believed this will result in the reduction in Colombia of interest rates, which have been very high, 20 to 24 per cent per annum on real estate loans not being unusual.

As a beginning the minister of hacienda has arranged with the Banco Central, the principal banking institution in the country, to reduce its rate from 12 to 10 per cent per annum for loans made the Government, and its rate of commission for administration of the "reorganized rentes" of the Government to 2 per cent. When the bank undertook the administration of these rentes, about three years ago, it charged the Government a commission of 10 per cent. This was later reduced to 5 per cent, and now to 2 per cent. This would seem to show advancing confidence in the improvement of the Government's financial condition, as well as the financial status of the country.

GOLD PRODUCTION.

COLOMBIA.

AMERICANS GREATLY INTERESTED IN GOLD MINING OPERATIONS.

Consul Isaac A. Manning, of Cartagena, sends the following report calling attention to the increased interest shown in Colombian gold mining by prospectors and capitalists from the United States:

A number of Americans who have been engaged in prospecting the regions of Colombia lying west of the Magdalena River in various districts south from Banco to Ibague, give very flattering reports of their discoveries. This district lying east of the Cauca River has but recently attracted the attention of American capitalists and miners, but there seems every reason to believe that the locality is rich in quartz deposits, and that it will prove one of the best regions of Colombia.

One point advanced in favor of this region is that, while much of the placer ground along the streams was worked by the Spaniards in the seventeenth and eighteenth centuries, they apparently paid little attention to its quartz deposits.

Most of the ledges discovered by American miners show oxidized quartz on the surface with free gold, but as depth is attained the ores become base, running usually to sulphides. Even of these, the general run will show 30 to 40 per cent of amalgamating gold which can be saved on the plates with a stamp mill, but the bulk of the values can be saved only by a concentrating process, usually indicating the use of the cyanide system.

CHARACTER AND EXTENT OF GOLD FIELD, ASSAYS, PACKING SUPPLIES.

Most of this country, which is mountainous and agricultural, with good climatic conditions, is virgin ground for the modern prospector. Many heretofore unknown ledges are being discovered, some with good-sized ore bodies and very rich. The character of the formation running through this spur of the Andes is such as to indicate permanency. There is little slate, and the deposits show true fissure contact veins.

Only a few assay reports are at hand, but such as have been made give every encouragement to the prospectors. This district is fully 400 miles in length from north to south, and can be entered easily in the dry season, from December to May.

[The consul forwards the names and addresses of a number of Americans who have been prospecting and starting development work. These may be obtained from the Bureau of Manufactures. He mentions one company which is operating a 5-stamp mill on $30 ore, will soon place a 10-stamp mill, and expects to further increase its ore-handling facilities.]

The ledges near Simiti are fissure contact veins, generally perpendicular, following the ranges from north to south, and running from 18 inches to 4 feet in width. There is some refractory ore, the sulphides usually carrying iron, lead, and zinc. The development work here has extended over a period of nearly three years.

Machinery and supplies for all parts of this district must be "packed" on mule back, and therefore no single piece weighing over 250 pounds can be easily handled, and it must not be bulky. Packages are usually put up in weights not exceeding 125 pounds.

PANAMA.

GOOD MINING PROPERTY INDIFFERENTLY WORKED.

Consular Agent Nathaniel I. Hill, of Santiago, writes that American capitalists will do well to look into the mineral resources of certain provinces of Panama. His report follows:

The mining laws of Panama are the most liberal in the world. Perfect titles to mining properties can be secured, and sufficient labor in the province of Veraguas, where some good mining property is located, can be obtained at reasonable wages. The gold mining possibilities in the districts of Canazas, San Francisco, and Santafe are encouraging. The richness of many of the quartz and placer mines is a matter of history. The Spaniards in the early days worked them to such extent as their primitive mining machinery would admit.

The climate in the mining region is all that can be desired, and cart roads exist from the ports of Aguadulce and Puerto Mutis to many of the mines. Veraguas Province has no copper mines worthy of mention, but there can be no doubt that the gold mining industry will figure as an important and interesting feature in its development.

El Remance mine (quartz) belonging to an English syndicate, the Veraguas Mining Company (Limited), is situated in the district of San Francisco, about 20 miles from the town of Santiago de Veraguas. A cart road leads to the property which has a healthy location on the foothills of the Cordillera range.

DEVELOPMENT WORK, EXPENSES, ETC.

There are some 7 miles of reef upon the property. Development work, which has been conducted by tunnels, has been confined to the main lode which runs at a width of from 4 to 5 feet and has been proved, by actual treatment of more than 16,000 tons, to assay over 6 pennyweights. About 45,000 tons of ore are in sight. The plant installed is a dry crushing one and the treatment is by direct cyaniding, which has attained an extraction averaging about 75 per cent of gold contents. The consumption of cyanide has been in the proportion of 1 pound to a ton of 2,240 pounds of ore.

Including about $50,000 worth of gold obtained from the operations, there has been spent upon the property by the company some $400,000. The plant has failed to give the output of 100 tons a day, which was expected of it, and the expenditure has so discouraged the present holders of the property that they are disinclined to put up more capital to supply necessary crushing machinery.

The fuel used is wood, and until this is superseded by water power, the Remance mine will not be brought to the paying stage. The installation of a water-power plant on the Santa Maria River at a place known as Las Filipinas, 2 miles distant from the mine, where there is an ample supply of water, is feasible. The best time to inspect mining properties of this province is during the dry season which begins about January 1 and lasts to about May 15.

WORLD'S OUTPUT.

LAST YEAR'S GOLD PRODUCTION THE LARGEST IN HISTORY.

The London Statist gives the world's production of gold in 1908 as the largest in history, or $409.000,000, against $400,000,000 in 1907 and $390,000,000 in 1906. The following figures show the increase in a quarter of a century:

Country.	1882.	1908.
Africa	$350,000	$164,000,000
United States	31,600,000	89,000,000
Australasia	26,500,000	73,300,000
Russia	21,250,000	21,900,000
Mexico	17,000,000	18,000,000
Canada		8,150,000
India		13,000,000
Other countries		21,650,000
Total	96,700,000	409,000,000

The outlook is for a further expansion of gold production, because of its stable value, more economical mining with modern machinery, and the thorough extraction, compared to the loss of one-third of the gold in milling a generation ago.

IRON AND STEEL.

JAPAN.

ONLY THREE PRODUCING IRON MINES IN THE COUNTRY.

Vice-Consul-General E. G. Babbitt, of Yokohama, forwards the following report on the production of iron ore and pig iron in Japan:

The iron mines at Kamaishi were sold by the Government to the present owner in 1887; modern machinery was introduced and smelters were established at Sudsuko, Kamaishi, and at Hashino, Kurihashi-Mura. In these two smelters there are 64 furnaces, able to take in 550 tons of iron ore per day. Coke and charcoal works are also established here. For motive power 1 gas and 32 steam engines are used, aggregating 3,475 horsepower.

The number of miners employed is 352; carriers, 491; workmen at the smelters, 192; and other workmen and laborers, 1,159; female laborers, 57; making a total of 2,256.

The product of this mine in 1906 was as follows: Pig iron, 32,000 tons; ferro-manganese, 900 tons; steel, 3,200 tons; coke, 70,000 tons; fireproof tiles, 1,200 tons. The total value of these products was $971,580. The nearest railway station to Sudzuko smeltery is Hanamaki, on the old Japan Railway Company's line, 52 miles away. The mines cover 705 acres.

The Sennin mines are situated in Yuta-Mura and Iwasaki-Mura of Iwate Ken, and about 14 miles from Kurozawajiri station of the old Japan railway company's line. These mines were purchased by the present owner in 1895. The smelter was completed in 1900.

The mines cover an area of about 350 acres, and employ 70 miners, 824 workmen, carriers, and laborers, 20 female laborers, and 10 children. Over 60 per cent of these workmen and laborers are employed in manufacturing charcoal and mining lime, both used at the smeltery. For motive power 4 steam engines, aggregating 144 horsepower, are used. The total output in 1906 was 4,295 tons of pig iron, valued at $89,838, and about 577 tons of ferro-manganese. The output for 1904 and 1905 was 2,805 and 3,685 tons of pig iron, respectively.

The Abuta mines are on the Pacific coast of the Iburi Province, Hokkaido, and about 19 nautical miles on sea and 30 miles on land from Muroran. The mines were worked in 1900, but were afterwards abandoned. In August, 1906, the work on mining was resumed, and during the four months ending December 31, 1906, 18,193 tons of iron ore was obtained. No smelting is carried on here, and the ores are shipped under contract to the government iron foundry at Wakamatsu. There were 55 miners, 20 carriers, 35 workmen, and 30 female laborers employed October 31, 1906. The mines cover an area of about 450 acres.

IMPORTS OF IRON.

Japan is not in position to supply its own requirements of iron ore and pig iron, the imports in 1907 being respectively 271,883,388 pounds and 222,304,239 pounds. For the first eleven months of 1908 the imports of iron and steel, pig, and ingot amounted to 196,111,023 pounds, and of iron ore 406,421,001 pounds, the latter showing a large increase, with December imports not entered.

In addition to iron ore and pig iron, the following table shows the imports of other articles of iron and steel for 1907 and the first 11 months of 1908:

Articles.	1907.	First 11 months of 1908.	Articles.	1907.	First 11 months of 1908.
Bars and rods:	*Pounds.*	*Pounds.*	Galvanized sheets:	*Pounds.*	*Pounds.*
Iron and mild steel.	238,636,468	209,875,597	Corrugated	37,258,911	17,896,018
Steel	16,480,190	10,995,643	All other	37,903,685	38,054,541
Galvanized wire	24,905,484	33,595,253	T, angle, etc	98,988,043	59,859,972
Hoops and bands	2,418,412	3,159,984	Rails	124,025,538	156,684,572
Ribbons	2,430,261	877,425	Fish plates	5,359,878	8,917,158
Paragon wire	489,863	187,433	Pipes and tubes:		
Wire rope			Cast iron	7,183,216	14,896,210
Iron and mild steel.	611,776	580,675	Wrought iron	44,652,496	30,854,370
Steel	1,189,342	1,560,612	Steel	720,395	1,313,348
Tinned plates and sheets:			Scrap and old iron	8,882,650	4,824,372
			Ferromanganese	1,994,149	1,202,300
Plain	16,885,802	32,913,732	Spiegeleisen	1,848,877	1,152,473
All other	32,447	2,850	Wire and small rods:		
Plates and sheets:			Iron and mild steel.	19,734,064	8,973,805
Iron or mild steel	188,569,176	134,486,392	Steel	908,204	308,374
Steel	1,086,219	1,183,907			
Diagonal or checkered plate	1,399,523	854,636			

In addition to the foregoing there are considerable quantities of nails, bolts and nuts, telegraph wire, chains, and machinery of every description, all tending to show Japan's dependence on other countries for manufactured iron and steel as well as iron ore. Nor does the above include importations for naval and military purposes, entering free of duty and not appearing in the customs returns.

GERMANY.

DECREASE IN IMPORTS AND INCREASE IN EXPORTS OF IRON.

Vice-Consul-General Charles A. Risdorf, of Frankfort, submits the following statistics on the iron trade of Germany:

In the following statement are given the imports, the exports, and the excess of exports for the month of December and for the entire years of 1907 and 1908:

Period.	Imports.		Exports.		Excess of exports.	
	1907.	1908.	1907.	1908.	1907.	1908.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
December	72,300	39,738	280,636	315,439	208,336	275,701
Entire year	813,349	558,940	3,452,402	3,732,428	2,639,053	3,173,488

The noteworthy feature of the trade is found in the increase of exports and the decrease in the imports. In the following statement are given the imports and exports of iron by the thousands of tons from 1902 to 1908:

	1902.	1903.	1904.	1905.	1906.	1907.	1908.
	Thousand tons.	*Thousand tons.*	*Thousand tons.*	*Thousand tons.*	*Thousand tons.*	*Thousand tons.*	*Thousand tons.*
Imports	269	316	345	323	690	813	559
Exports	3,309	3,481	2,770	3,350	3,666	3,452	3,732
Excess of exports	3,040	3,165	2,425	3,027	2,976	2,639	3,173

BELGIUM.

SOME SIGNS OF REVIVAL IN IRON AND STEEL BUSINESS.

Consul H. Abert Johnson, of Liege, forwards the following report on the situation in Belgium of the iron and coal industries:

The iron and steel markets of Belgium, after having shown some signs of improvement, have again fallen into a state of inactivity. However, the prices of iron ore have advanced and buyers are disposed to contract for their supply of ore for long periods in advance, an unmistakable evidence of their confidence that business will improve. The steel works at Liege have received orders for 20,000 tons of rails from Bulgaria, for 2,000 tons from Brazil, for 1,300 tons from Denmark, and for 2,000 tons from the Belgian Government for lines in this country. These orders are regarded as substantial evidence of better conditions for 1909.

The period for which the Lorraine-Luxembourg syndicate was organized for the sale of pig iron expired with the end of 1908 and efforts of various producers to renew the agreement have not yet been successful. However, negotiations are going on and the trust will probably be effective again by July of this year. Until that time each concern will make arrangements for the sale of its own output.

The production of coal in Belgium in 1908 aggregated 23,670,000 tons, a decrease of 149,000 tons as compared with the preceding year. The stock on hand at the end of the year was 917,000 tons. The outlook in the coal business is regarded as unsatisfactory.

PHOSPHATE ROCK.

GERMANY.

EXTENDING USE FOR FERTILIZERS—STATUS OF AMERICAN SUPPLY.

Supplementing the report of one year ago by the Berlin consulate-general on the sale of phosphates for fertilizer in Germany, Consul-General Robert P. Skinner now sends additional information from Hamburg:

The use of superphosphates by German farmers is practically universal. There is also a great and growing demand for a crushed furnace-slag fertilizer consisting of 14 to 18 per cent phosphoric acid and 40 per cent of lime, concerning which I may make future communication, as it is a material of great utility in softening soils, and one which the United States could produce, probably, in unlimited quantities. The German phosphate-rock importers desire 77-degree rock, with a tolerance of 1 degree, but they have been getting American shipments of as low degree as 73 degrees. All prices are quoted per degree and per ton. The present price is about 8½d. ($0.17) per degree.

The world's total production of phosphate rock increased in 1907 to the amount of approximately 250,000 tons. The United States produced about 135,000 tons less than in the previous year, Algeria and Tunis about 320,000 tons more, and the South Sea Archipelago about 43,000 tons more. The progressive production of phosphate in northern Africa is to a great extent a consequence of the increasing demand on the part of European agriculture, which has almost absorbed the entire quantity produced.

In the course of 1907 the first shipments of phosphate from Nauru, German Polynesia, appeared on the local market. The quality is good, and this product is considered a valuable addition to the several kinds of phosphates imported from the Polynesian islands. Owing to the improvements made on the island of Nauru, both in respect to mining and shipping facilities, it is expected that larger quantities of Nauru phosphate will be imported.

USE OF ROCK—SHIPMENTS AND PRICES.

Phosphate, which is free of duty when imported into Germany, is ground and converted into superphosphate, by treatment with sulphuric acid, in numerous factories in this country. It requires about $30,000 to erect a factory to produce 3,000 tons of such acid.

The demand for phosphate, generally, is growing, but this is not the case as respects Tennessee rock. As the following statistics show, the exports of Tennessee phosphate have decreased. Hamburg and the adjoining city of Harburg import chiefly Florida rock phosphate and the Algerian product. Considerable quantities are also received from Tunis.

Of the shipments of phosphate arriving in Hamburg very small quantities are reexported, the chief consumers being the German farmers. It would not be remunerative for the German superphosphate factories to seek a market for their article outside of Germany, in northern Europe, or elsewhere, as well-organized competing factories may be found wherever there is any considerable demand for this fertilizer.

While the freight rate per ton of phosphate from Algerian ports is 7s. ($1.70) per ton, and from Tunisian ports 7s. 6d. ($1.82), shipments from American ports are generally subject to a freight rate approximating 10s. ($2.43). Of late almost no ships have arrived here from ports in the United States carrying whole cargoes of phosphate. This article now usually arrives in lots of 1,500 to 2,000 tons, on tramp steamers loaded with other bulk goods, such as cotton, cotton seed, cereals, etc.

The statistical situation of phosphate rock is as follows:

Description.	1903.	1904.	1905.	1906.	1907.
Exports from American ports.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Florida rock	474,053	490,366	572,311	561,040	591,719
Florida pebble	315,612	364,446	404,985	482,912	564,702
Peace River, Fla	62,910	81,650	91,155	41,742	36,729
Tennessee	118,948	121,965	94,301	101,466	92,112
South Carolina	67,445	90,000	78,802	....	....
Total	1,033,968	1,148,427	1,241,554	1,187,160	1,285,262
American exports to Europe.					
Florida rock	469,597	483,559	546,944	550,521	584,799
Florida pebble	141,251	219,166	218,838	209,617	296,371
Tennessee	113,948	121,965	80,298	88,105	92,172
Total	724,796	824,690	846,080	848,243	973,342
German imports from United States.					
Florida rock	304,935	284,780	261,407	314,820	278,226
Florida pebble	20,250	71,700	30,582	24,770	50,189
Total	325,185	356,480	291,989	339,590	328,415
Exports from Algeria and Tunis.					
Algeria	301,112	344,969	347,747	302,262	343,087
Tunis	360,621	457,133	529,645	757,993	1,040,300
Total	661,733	802,102	877,392	1,060,255	1,383,387
Imports at Hamburg and Harburg.					
Florida rock	120,669	105,493	138,795	148,676	140,504
Florida pebble	....	....	....	....	19,682
Algeria	21,326	29,125	40,415	40,430	36,675
Gafsa	22,330	8,525	6,250	10,600	11,091
Senam	....	....	....	3,000	1,500
Ocean Island	2,700	4,800	5,450	7,300	....
Christmas Island	3,772	5,950	2,788	3,000	2,960
Aruba	750	3,150	1,227	2,808	....
Total	171,547	157,043	194,925	215,814	212,352

The total production of all countries was as follows:

Countries.	1906.	1907.	Countries.	1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
United States	2,052,000	1,917,000	Belgium	163,600	180,000
Tunis	758,000	1,040,300	Other countries	100,000	100,000
Algeria	302,300	343,000			
South Sea Islands	247,000	290,000	Total	4,092,300	4,347,000
France	469,400	476,700			

The quotations at end of December, 1907, in Hamburg, per degree per 1,000 kilos (2,204.6 pounds), were:

Description.	Per cent.	Cents.	Description.	Per cent.	Cents.
Florida hard rock	76 to 80	17.1 to 18.6	Algeria (Tunis)	57 to 63	13.6 to 14.0
Florida pebble	68 to 73	13.6 to 14.0	Tunis-Gafsa	57 to 63	14.0
Tennessee	78 to 80	15.7 to 16.2	Christmas Island	80 to 85	20.7
Algeria	63 to 70	14.3 to 14.8	Ocean Island and Nauru.	83 to 87	20.7

SOUTH SEA ISLANDS.

JAPANESE ENTERPRISE ON OCEAN ISLAND IN THE SOUTH SEAS.

Consul George H. Scidmore, of Nagasaki, sends the following information concerning the securing of phosphate in the South Seas for fertilizing purposes in Japan:

In connection with the recent departure from Nagasaki of the Japanese steamship Hikosan Maru, bound to Ocean Island, the agent of the Mitsui Bussan Kaisha states that there are at present on that island about 300 Japanese laborers, 70 Japanese artisans and mechanics, and about 600 South Sea natives engaged in the phosphate-rock industry. The Japanese laborers, who are paid in accordance with the quantity of work done, earn about 70 yen ($34.86) per month each. The artisans and mechanics receive from 120 yen ($59.76) to 130 yen ($64.74) per month. Their hours of labor are nine daily. Board and lodging are furnished by the employers, an English company. The South Sea natives are under contract, which has two more years to run, after which term it is intended to employ Japanese laborers only.

The outturn of rock from this island is controlled by the Mitsui Bussan Kaisha, which company imports it in the rough into Japan, where it is crushed in mills established for that purpose.

SALT INDUSTRY OF COLOMBIA.

PROPOSED INTRODUCTION OF NEW APPLIANCES AT THE MINES.

Consul Isaac A. Manning, of Cartagena, furnishes the following information concerning the salt industry of Colombia and the recommendations of a commission which recently visited the salt mines of Austria and Germany:

The Government of Colombia has recently had agents in Germany and Austria examining their salt mines, with a view to recommending the proper processes of modern practice for the further development of the salt industry in Colombia. This is one of the most important sources of government rental, as salt and its extraction is a monopoly of the Government. There are a number of places where the supply of the country is found, partly mineral deposits and partly maritime.

The report of the commissioners to Germany and Austria describes in considerable detail the manner of extracting and treating the salt from the mines of those countries, and was made with a view to recommending better methods for use in the mines of Zipaquira, near

Bogota, which turned out during the years 1898 to 1905, inclusive, 71,024 metric tons of salt, which realized $699,545 at a cost of $212,480.

STATISTICS OF OUTPUT.

The importance of the salt industry of Colombia will be more clearly seen by giving the returns of all the salt output of 1905, the last general statistics at hand, where the mines and maritime works were administered by the Government: Mineral salt, 13,875 metric tons; marine salt, 1,435 metric tons; value in gold, $418,388. From the maritime salt works, administered by the Banco Central for the Government, no statistics are published, but reliable sources place the output of the works at Galera Zamba, near Cartagena, in 1908, at 98,000 bags of 138 pounds each, which brought $4 per sack, or $392,000; and those of Magdalena, Santa Marta, and Rio Hacha at about 120,000 bags of the same weight, producing $480,000. Of this income, I have reason to believe that the net return to the government revenues exceeds one-half of the gross product.

None of the salt produced in Colombia is refined or ground, but is sold in its crude form, although some retailers grind it for sale for table use.

RECOMMENDATIONS OF COMMISSIONERS.

After examining the mines in Germany and Austria the commissioners from Colombia, Don Julio Solano and Don Oscar A. Neguera, recommend that the Government introduce at the mines of Zapiquira the following new systems: Electric drills; electric lighting service; electric traction for moving cars for mobilizing the mineral; adoption of the system in use in Shonebeck for concentrating the salt waters inside the mine; construction of an electric plant for the purposes of power and other requirements of the mine; establishment of a fixed or hanging tramway to carry at low cost the coal from the mines of San Jorge to the salt mines; the construction at termination of present contracts for its fabrication of a plant to prepare salt by the boiler method in use in Shonebeck; to reduce the elaboration of compact salt to the quantity strictly necessary to satisfy the demands of those who think salt must be returned to its primitive state of hardness in which it is encountered in the earth.

THE SHONEBECK SALT MINES.

The chief specialty of the Shonebeck salt mines consists in opening the excavations by means of the dissolution of the salt in the walls of the mine by the following process, as given in the Colombian commissioners' report:

> To obtain this result water is conducted under great pressure to the depths of the mine from a tank above, 179 feet being its height above the present workings, with a pressure at point of delivery equal to fourteen atmospheres. This water is distributed in the distinct excavations, where it is forced through numerous perforations in the pipes, first on the highest part of the wall to be attacked, which dissolves the salt with facility. Thus when one row or canal is opened in the wall the tube lowered and the work continued until the floor is reached. This water is then allowed to gather in a canal in the center of the workings which conducts it to a central deposit, whence it is elevated by means of electric pumps to the boilers where it is reduced to pure salt.

The plant for the preparation of salt by the boiler method at the Shonebeck mine is thus given by the commissioners:

> They are rectangular, 14 meters (4.59 feet) long, 8 meters (26.25 feet) wide, and 40 centimeters (1.31 feet) deep, made of iron, prepared especially to give them greater resistance to the corrosive action of the salt. In their greater

extension they are roofed over with wood terminating in a sort of chimney where the vapor from the evaporating water escapes during the operation. When free from water the salt is dried on top of the roof mentioned, where it is heated by the heat from the boilers.

The report makes reference to the new vacuum system now being tried in Germany and Austria, but does not recommend its employment here until it has been more fully demonstrated.

The duty on salt imported from abroad is now $1.50 per 12½ kilograms, or a little over 5 cents per pound; the duty on salt imported through the Pacific custom-houses is 20 cents per 12½ kilos. Salt retails in the local market at 20 and 25 cents per pound when in bulk, and higher when in small sacks. Local salt retails when ground and reasonably white at from 7 to 18 cents per pound, according to supply and demand.

There is very little export of salt from Colombia to other countries, although occasionally salt is shipped across the Isthmus of Panama to Buenaventura on the Pacific coast.

RADIUM IN CORNWALL.

REFUSE MATERIAL AT ENGLISH MINES CONTAIN VALUABLE MINERALS.

A report from Consul Joseph G. Stephens, of Plymouth, states that considerable interest is manifested throughout England in the announcement of the existence in large quantities in Cornwall of the material known as pitchblende, from which radium is produced after the extraction of uranium. The consul describes the sources of the valuable article and probability of securing further supplies:

Pitchblende ore is largely found in the Erzgebirge, in Bohemia, and in Cornwall, and so valuable are such finds of pitchblende that the Austrian Government, exercising a legitimate right, has prohibited further export from that country. The world, therefore, must be searched for new sources of supply, and Cornwall appears likely to furnish the deficiency. Portugal has also been mentioned as a likely field.

The process of extraction is extremely tedious and expensive, tons of pitchblende (oxide of uranium) yielding only the minutest quantities of the precious mineral. However, the fact that a pound of radium is theoretically worth over $36,000,000 is an inducement to produce it, and science makes its production a necessity. [The total world production of radium has not yet equaled one gram.—B. of M.] It is known that radium is widely disseminated throughout the earth's crust, but the occurrence of radio-active minerals in a formation sufficiently permanent to render mining at any depth a paying proposition is still very rare. Radium to be appreciably cheaper must be derived from uranium minerals, when obtainable in large quantities from surface deposits at little expense. Even where so found the cost of its separation from other minerals and waste is enormous. Great interest therefore naturally attaches to the refuse heaps at the mines of Cornwall.

The particular mine in which the existence of radium has been found is in the St. Austell district, but St. Ives is sharing the public attention by reason of the investigations which have been made for some time past. At present the Cornish mines are fitted with machinery for dealing with the residium as ore, but not for dressing it, and persons are engaged to crush it into powder. Their market thus far has been for uranium oxide, which has been sent to Germany, where it is chemically treated to produce sodium uranite for the colored glass and porcelain trade, and nitrate of uranium for the photographic trade. Hitherto the tailings from the mines have been regarded as useless, but it has recently been discovered that the residium is the mother of radium. The Cornish company contemplates the establishment of works for the treatment of pitchblende at Trenwith mine, near St. Ives, and in the St. Agnes district. It is asserted that the works will afford employment to some 400 workmen, and will constitute a new industry of considerable benefit to the county.

EUROPEAN ZINC TRUST.

NEW COMBINATION TO LIMIT PRODUCTION AND ADVANCE PRICES.

According to reports appearing in some of the leading European industrial organs, Consul H. Abert Johnson, of Liege, says that an international agreement has been concluded between a number of prominent zinc works, resulting in the organization of what is designated as the "Syndicat des Usines à Zinc." The consul continues:

The limit of production of each one of the firms having been established, the principal clause of the agreement stipulates that should the current price of zinc fall below £19 ($92.46), or should the accumulation of stocks show an unusual increase, the limit of production will be proportionately reduced. If, on the other hand, the current price of zinc continues to be above £19, this limit of production may be increased as arranged in virtue of an agreement between delegates from each group of concerns making up the trust, which includes German, Belgian, and English concerns, although it seems that agreements have not yet been concluded with the last mentioned.

It is asserted that the works of Heritiers Georg von Giesche, a concern that is said to produce one-fifth of the total output of zinc in Silesia, is not included in the new combine, whose main object is to regulate production, but competition from this quarter apparently is not feared. Steps have been taken to induce the five most important zinc works in England to join the trust; as to the zinc works of the United States, it is believed that anything like extensive exports of zinc from that part of the world are too far in the future to meet serious consideration at the present time.

It is rumored that one of the earliest results of the formation of this trust will be an increase in the present price of zinc, such an advance having already been definitely decided upon.

Referring to his former report regarding the formation of a European zinc trust, Consul H. Abert Johnson writes from Liege that it now appears from more recent reports that the organization of a syndicate composed mainly of German zinc manufacturers was concluded the latter part of February under the form of a limited liability company. The capital is said to be $509,400, and the management is placed in the hands of Director-General Lob, of the Hohenlohe Works. The sale of zinc will be effected through the agency of Beer, Sonheimer & Co., the Metal Gesellschaft, of Frankfort-on-the-Main, and by Aron Hirsch, of Halberstadt. It is stated that this new combine includes a large number of Belgian, French, Dutch, and Austrian works.

MACHINERY.

MARKET CONDITIONS ABROAD.

ENGLAND.

GOOD FIELD FOR WORK OF REPRESENTATIVE SALESMAN.

Consul Edward B. Walker, of Burslem, in reply to inquiries from American exporters, writes as follows concerning the introduction and sale in that portion of England of goods made in the United States:

Internal-combustion engines are used to a limited extent in Burslem, one American make having been sold by a local dealer. It is believed, however, that there is a good field for their introduction in the agricultural districts adjacent to the city. Steam and power pumps are much used, and with the restoration of business prosperity a good trade may be developed in these lines.

Electrical machinery is used in considerable quantities, that of American manufacture being highly regarded, and new installations are frequent. There are 300 pottery establishments here in which such machinery can be used to great advantage, but as yet its use is slight compared with the field.

Windmills are not used to any considerable extent, but ought to be, as there are fine, large tracts of agricultural lands in this part of England. Objections have been made that an American windmill can not withstand the strong winds, a difficulty that may be easily overcome by stronger construction. There is no prejudice against American manufacture in this locality; rather there are many who are outspoken in their praise of them.

While many of the American goods consumed here are purchased through London, Manchester, Birmingham, and Liverpool merchants, it is believed that the sending of a representative here to push the introduction and sale of American manufactures would be a good business proposition. In many cases manufacturers find it advisable to establish branch houses or agencies in one or more of the large cities and to do business from there. But even where business is so conducted the working of the subdistricts by personal representatives is important. [Addresses of firms handling internal-combustion engines, steam and power pumps, and electrical machinery are on file in the Bureau of Manufactures.]

SCOTLAND.

ELECTRICITY SUPPLANTING STEAM AS A MOTIVE POWER.

Consul Rufus Fleming, of Edinburgh, in response to an inquiry from a Chicago manufacturer, reports as follows on the use of certain lines of machinery in Scotland:

Gas and oil engines are now used in this district to a considerable extent and for various purposes. They have been adopted at many workshops and factories which have only intermittent use for driving power, also in large warehouses for handling merchandise, in public-school buildings to run the ventilating apparatus, and in hotels in connection with hydraulic elevators. In not a few country hotels and mansions oil engines are employed for pumping and to generate electricity for lighting. Gas and oil engines are also in use at factories where power is required over a greater extent of ground than could be well managed by belt transmission. The oil engine is the favorite form of power on farms for pumping, grinding, etc. It is probable that the use of these engines in the country districts of Scotland will constantly extend, unless there should be a widespread development of interest in windmills for pumping and for driving the smaller machinery. Practically all of the internal-combustion engines in this district are of English manufacture.

WINDMILLS—STEAM AND POWER PUMPS.

Windmills are not yet in favor with Scotch farmers. Few are found in any part of the country. These are mostly of American manufacture and are used for pumping water, but not for grinding feed. In northern Scotland some of the small farmers and crofters use windmills for thrashing and grinding. Throughout this country climatic conditions are favorable to the use of any type of windmill that can withstand the high winds. The agents in this city for several patterns of windmills sell wheels ranging from 8 to 16 feet in diameter, mounted on galvanized-steel towers 10 to 40 feet high. For supplying farms or country houses with water, the 10-foot wheel on a 40-foot tower is used, with a 2½-inch siphon pump fitted with a 1½-inch tail pipe 25 feet long, and foot valve and strainer attached. The average price of such a windmill, put up complete, is about $245.

For power pumps the market here is good and it expands with the extension of the coal mining industry. Steam turbine pumps are in use in some collieries, but electrically driven pumps are generally employed, either turbine or the "three-throw" type. They are principally of British manufacture, especially the pumps for shafts of great depth, but a considerable number of American pumps has been introduced in the collieries of eastern Scotland. There is also a fair demand in this district for gravel and dredging pumps. American manufacturers have a share of this trade and by well directed efforts may obtain more of it.

ELECTRICAL MACHINERY AND MOTOR VEHICLES.

The substitution of electric for steam driving was for many years a slow process in Scotland, but it is now taking place more rapidly. manufacturing plants, coal mines, etc. The Edinburgh establishments Progressive firms have adopted electric motors for many purposes in using electric motors include iron and steel foundries, brass foundries, printing companies, manufacturers of printing presses, and small plants in various trades requiring little driving power. In most of the important Scotch collieries and in all oil shale mines electric plants have been installed, and in some instances a marked saving has been effected, with increase of output. Several electric-power companies with large capital are also operating in different parts of the country, supplying both light and power to municipal corporations and private concerns. American manufacturers have in the last few years furnished some of the heavy machinery for public and private generating stations and other plants, and also dynamos, motors, etc. American-English companies have done more in this line. With continual extension of the uses of electricity for light and power, American firms should gain a stronger position in this market, if they can meet British prices.

In the development of the automobile trade, motor vans and trucks have lagged far behind the motor car, showing that business men of ample means draw a broad line between expenditure for comfort and pleasure and expenditure for business purposes. In the latter case, " Will it pay ? " is the sole question considered. That this question has been generally decided in the negative is evidenced by the fact that comparatively few motor vans or motor trucks are in use here, although the streets of this city seem to invite a change from horse to motor vehicles, the grades being many and heavy. Probably the explanation is not found in the greater initial cost of motor vehicles, but mainly in the cost of upkeep and the wages of drivers.

The street railroad and suburban steam railroads carry and deliver parcels at very low rates. Many stores use these facilities for sending goods to purchasers. Messenger boys and girls are also employed at small wages. Excepting a limited number of leading merchants, transfer companies, breweries, laundries, carting contractors, and flour millers, the business community cling to the old methods of serving their customers, and may be expected to continue to do so until the advantages of new methods shall have been demonstrated to their satisfaction. The motor vehicles now employed here for business purposes are all of British manufacture. [Addresses of dealers in machinery mentioned in this report are on file in the Bureau of Manufactures.]

COLOMBIA.

AMOUNTS OF MACHINERY THAT MAY BE IMPORTED FREE OF DUTY.

Consul Charles C. Eberhardt, of Barranquilla, advises that he is in receipt of many inquiries relative to the importations of machinery into the Republic of Colombia, which leads him to write:

The letters seem to indicate that considerable misunderstanding or misinterpretation of the laws and requirements governing such importations exists in the United States, particularly among mining men, as to the application of that part of the Colombian tariff which relates to the conditions under which certain amounts of machinery may be admitted free of duty.

For the benefit of any who contemplate shipping machinery to Colombia, it might be well to emphasize the fact that, according to the Colombian tariff, such shipments are exempt from duty only in case they are intended for " utilidad publica " (that is, in the interest of the development of the commerce and industries of the country), and their gross weight amounts to 3,000 kilos or more. Gross weight includes all wrappings, etc., and 1 kilo is equivalent to 2.2046 pounds. Shipments weighing less than this amount would properly come under class 2, subject to a duty of 1 cent gold per kilo, gross weight, plus 70 per cent, plus 2 per cent; and equipment, tools, etc., would be classified under No. 4, paying a duty of 3 cents gold per kilo, gross weight, plus 70 per cent, plus 2 per cent.

CONSULAR INVOICE CHARGES—CUSTOMS CLASSIFICATION.

Of course, all shipments must be made under consular invoice, certified before the Colombian consul-general in New York, and his charges vary according as the goods are classified by him: No. 1, $9 gold; No. 2, $18 gold; No. 3, $24 gold; and No. 4, $30 gold for every $1,000 gold, or fraction thereof, declared value of the shipment.

For the purpose of collection of duties, further classification of all shipments is made at the Colombian custom-house, 16 different classes appearing in the tariff, on which duties from $0.01 to $1.50 gold, per gross kilo, plus 70 per cent, plus 2 per cent may be added, while there are also special classes which can not be enumerated in the tariff. There seems to be no way of determining, absolutely, under which class the goods will finally be placed, as the ideas of the custom-house official and those of the shipper regarding such classification may be entirely different, especially in cases where different materials enter into the make-up of an article.

As shippers of heavy machinery seem to be the only ones materially affected by this exemption from duties, it seems only necessary to again state that, unless the gross weight of the shipments amount to more than 3,000 kilos, or 6,614 pounds, they must expect to pay the regular duties as set forth in the tariff, according to such classification as may be decided upon by the local custom-house officials.

CHILE.

AMERICAN PRINTING MACHINERY IN FAVOR—GERMANS CAPTURE TRADE.

Consul Alfred A. Winslow, of Valparaiso, forwards the following report concerning machinery and supplies used in the printing business in Chile:

American printing machinery stands well in Chile, but is much more expensive than the German machinery; besides this field has not been thoroughly worked by American manufacturers. Most of the local houses handling printing machinery and supplies are European, and naturally favor that trade. The following table shows the imports, by countries, in this line from 1904 to 1907:

Countries.	1904.	1905.	1906.	1907.
United States	$54,398	$70,604	$15,098	$16,985
Belgium	8,853	5,324	2,256	1,940
France	8,430	7,110	8,711	18,711
Germany	35,047	68,659	75,682	75,152
United Kingdom	7,302	19,828	15,925	16,951
Total	109,030	171,525	117,672	132,639

During the years 1904 and 1905 two large up-to-date newspaper plants were installed almost entirely with American machinery, one at Valparaiso and the other at Santiago. The falling off in imports since that time is due to the fact that European houses, and especially German firms, are actively striving for this trade.

Printing machinery enters Chile free of duty, and it seems that American manufacturers should have more of this trade. The most

effective way of getting a due share of this business is to send an experienced salesman here. [A list of dealers in printing machinery and supplies, and also of newspapers, is on file in the Bureau of Manufactures.]

ASIATIC TURKEY.

DIFFICULTY OF SECURING WATER TO IRRIGATE ORANGE GROVES.

Relative to pumping water in Palestine for irrigation purposes, Consul Thomas R. Wallace, of Jerusalem, furnishes the following additional information about pumps, fuel, etc.:

The pumps used at Jaffa for irrigation of orange gardens, etc., are the treble and double deep-well pumps. The average capacity of this pump is from 20 to 40 cubic meters (cubic meter = 35.3 cubic feet) per hour. These pumps are fixed in the depth of the well 1.5 meters (meter=39.37 inches) above the water surface of the well, and below the surface of the ground from 6 to 38 meters, depending upon the height of the ground above the water line. It is extremely difficult to obtain water from these sandy strata on account of the fine sand and the fall of the water line after two months' pumping. In most of these wells are driven pipes for a second stratum of water, which is often not found. There are very few wells which have been successful, leaving the water question in Jaffa still unsolved. The 800 orange gardens in this district require 20,000 cubic meters of water daily for a period of 7 months.

On account of transportation charges it is more economical to use hard coal for fuel than soft coal. The prices for fuel at Jaffa at retail per ton of 2,000 pounds are $8.60 for Cardiff large steam coal, $8.80 for Crown brand patent fuel, $14 for anthracite nut coal, and $1.40 per box of 65 pounds of petroleum. [The addresses of European manufacturers of pumps used in Palestine are on file in the Bureau of Manufactures.]

FARM IMPLEMENTS.

WESTERN EUROPE.

COMPARISON OF PRICES WITH THOSE IN THE UNITED STATES.

Special Agent Charles M. Pepper furnishes a short report on prices at which certain farm implements are sold in Europe. He says the chief interest as regards prices in the United States is in harvesting machinery. This is the only line in which prices seem uniform and which furnishes material for comparison. Mr. Pepper further writes:

The importers of American agricultural machinery in Germany have an organization which includes practically all of the important firms who handle American farm implements. The society is not incorporated. Aside from some social features, its object is to establish and maintain uniform retail prices at which machines shall be sold, and also uniform rules as regards the terms on which they shall be sold. It is stated that the association has been successful in regulating prices and methods of sales, so that there are few deviations. It is governed by regulations and by-laws and regular meetings are held.

For harvesting machinery the McCormick machines are taken as the basis in fixing prices. Circular price lists of these machines for 1908 and 1909 are forwarded. These price lists go to the agents.

During 1908 an advance of 5 per cent was made on the list price of the machines, but this does not hold for 1909. For this year the prices are about as follows:

	Marks.	Dollars.
Binder	900.00	214.20
Reaper	500.00	119.00
Mower	300.00	71.40
Rake	120.00	28.56

The selling agent may, if he sees fit, give 5 per cent discount for cash on these prices, and this discount is usually granted, so that the actual selling price may be taken as 5 per cent below the quoted price.

Extensive illustrated catalogues of American harvesting machinery are published in the German language and widely distributed. Usually these descriptive catalogues do not give prices. The German duty is calculated on the weight per kilo, but on the chief harvesting machines will figure out as follows:

	Marks.	Dollars.
Binder	50.00	11.90
Reaper	25.00	5.95
Mower	20.00	4.76

AMERICAN CAPITAL INVESTED.

The International Harvester Company has bought extensive factory sites at Neuss, near Cologne, and proposes to build factories for the manufacture, partially at least, of machines for the German trade. The purchases of land for this purpose were concluded in October, 1908. The location selected is in the heart of the iron and steel district of Rhenish Westphalia, close to the source of supply of raw material. It is also a convenient center for distribution of the manufactured parts, both by means of the Rhine and by the railway systems. It is not expected that the company will be able to manufacture for the 1910 trade, but something may be done in this line.

The trade in agricultural implements is to a large degree directed from Hamburg, the Hamburg free port offering exceptional facilities for warehousing and reshipment. Prices in the different countries are not entirely uniform, there sometimes being variations owing to location, but the prices quoted below are about the standard retail prices at which the machines are sold in the different countries:

	Prices.				Prices.		
DENMARK.	*Crowns.*		*Dollars.*	**SOUTH RUSSIA.**	*Rubles.*		*Dollars.*
Binder	625	=	167.50	Binder	330	=	169.95
Reaper	340	=	91.12	Reaper	188	=	96.82
Mower	225	=	60.30	Mower	130	=	66.95
Rake 8′	115	=	30.82	Rake	53	=	27.29
SWEDEN.				**NORTH RUSSIA.**			
Binder	600	=	160.80	Binder	350	=	180.25
Reaper	300	=	80.04	Reaper	180	=	91.70
Mower 6′	225	=	60.30	Mower	130	=	66.95
Mower 5′	190	=	50.92	Rake	37	=	19.05
Mower 4½′	185	=	49.58				
Mower 3½′	160	=	42.88	**WEST SIBERIA.**			
Rake 8′	90	=	24.12				
HUNGARY.				Binder	365	=	187.98
Binder	1,200	=	243.60	Reaper	198	=	101.97
Reaper	600	=	121.80	Mower	140	=	72.10
Mower	400	=	81.20	Rake	60	=	30.90
Rake	180	=	36.54				

Rates of duty vary in the different countries and affect the price proportionately.

UNITED KINGDOM.

AMERICAN AND CANADIAN COMPETITION IN THE BRITISH MARKET.

Special Agent Pepper also sends from London the following brief report on the prices charged for farm machinery in the British isles:

Harvesting machinery in the United Kingdom is supplied by the American and Canadian manufacturers in competition with the British manufacturers. The different American and Canadian companies also compete among themselves. The English companies at times, in order to meet this competition, resort to price-cutting and to selling direct to consumers. There is no German competition serious enough to enter into this trade.

Prices of American machinery are governed very largely by the standard McCormick machines, that being taken as the basis for quotations. The following is the wholesale price list of the McCormick machines, with also the agent's price to consumers in the cases of the leading articles:

Machines.	Wholesale price.	Agents' price.
Binders:		
5 feet, left hand	$116.64	$131.22
6 feet, left hand	119.04	135.16
7 feet, left hand	121.50	136.02
5 feet, right hand	116.64	....
6 feet, right hand	119.04	....
7 feet, right hand	121.50	....
Sheaf carriers:		
Large	6.06	....
Small	3.60	....
Waterproof covers	3.00	....
Reapers, 5 feet Daisy	65.78	81.22
Mowers:		
Little Vertical, 3½ feet	38.88	51.00
New 4, 4½ feet	43.74	53.40
New 4, 5 feet	44.94	55.80
New Big 4, 4½ feet	46.14	55.80
New Big 4, 5 feet	47.34	58.32
New Big 4, 6 feet	48.60	....
Castor wheels for 2-horse mowers subject to 33⅓ per cent off	$6.06	....
Reaping attachments:		
3½ feet	6.06	....
4½ feet	6.06	....
5 feet	7.26	....
6 feet	8.50	....
Rakes:		
6½ feet, self dump	20.64	$25.50
8 feet, self dump	21.84	26.70
9 feet, self dump	24.30	29.10
10 feet, self dump	25.50	31.10
Grinders	3.12	....
Tedders	35.22	....
Seed attachments for Giant Cultivators:		
6 feet	15.78	....
7½ feet	19.44	....

The International Harvester Company fixed discount terms for 1909 as follows (for cash October 1, 1909; after that date net):

Binders, £1 ($4.86); reapers and mowers, 10s. ($2.43); tedders and rakes, 5s. ($1.24).

Sheaf carriers, covers, reaping attachments, and knife grinders are strictly net cash October 1, 1909.

DOMINICAN REPUBLIC.

PRIMITIVE TOOLS—INTRODUCTION OF MODERN APPLIANCES.

Consul Ralph J. Totten, in the following report from Puerto Plata, shows the backward condition of farming in the Dominican Republic, and what might be done were modern farming tools thoroughly introduced:

The implements used by the Dominican farmer in planting and harvesting his crops are practically the same as were used on the island one hundred years ago. Improved agricultural and farm machinery has not been considered necessary and is almost unknown. A Dominican writer on economic subjects remarks on the anomaly of a country which has the wireless telegraph but no plows. I have been able to locate only some four or five modern plows in this district. The work of planting is done almost entirely with hoes, although the native plow is used to some extent. This consists of a wooden beam with an iron prong about 12 inches long, and is dragged by oxen to break or tear the soil.

Cacao is planted with hoes, the ground only being broken where the seeds are placed. Four seeds are put in each hill, and if all sprout two are destroyed, leaving the two sturdiest shoots. Sugar cane and tobacco are planted in much the same manner, hoes being used for planting and machetes for harvesting. The latter is an extremely useful tool. It is a great knife or sword ranging from 18 to 32 inches in length. Some are about 2 inches wide at the hilt and broaden to about 6 inches at the end, but the style that seems to be growing in favor is a straight blade about 2 inches wide and 30 inches long. They are carried at all times, suspended from the waist in a leather scabbard. They are used in clearing land, making fences, and harvesting grass, sugar cane, and, in fact, anything that has to be cut. The Dominican can fell a tree up to 12 inches in diameter with this implement.

Machetes are imported from Germany and from the United States. The German article sells at from 30 cents to $1.50 each. The American-made machete is considered superior to all others and sells for from $1.50 to $2.25.

Hoes are imported from Germany. The style used is narrower and heavier than the American garden hoe, and sells at 30 cents to $1.50. Picks, shovels, and axes are little used, and are to a great extent of European manufacture.

IMPROVED IMPLEMENTS NEEDED.

There is unquestionably a good field here for trade in agricultural implements. The Dominican farmer is intelligent and is quick to recognize superiority in tools or in methods. There are great river valleys in the interior, affording large areas of level land that will produce a great variety of crops and where agricultural machinery of the most improved type could be used to advantage. With modern implements and modern methods men who now cultivate 10 acres could plant 100 just as easily.

There is only one way in which this can be brought about, and that is by sending men to show and demonstrate the different articles. Catalogues are all right to show a different or better variety of some well-known article. But in a country where the manufacturing firm, its goods, and even the use of the machines, are unknown—where its adoption means a radical departure from traditions and customs—something more convincing than a picture and printed description is necessary.

Send Spanish-speaking salesmen with samples. They could establish themselves at the city of Santiago, lying at the head of the fertile valley of the Yaque River, the second largest city of the Republic and the center of the cacao, coffee, and tobacco section. Here they could get in touch with the most progressive farmers and estate owners, could demonstrate the implements, and could establish selling agents.

With the prospect of a railway from Santiago to Monte Cristi, the practical certainty of irrigation of the barren land at the lower end of the valley, and electricity for Santiago and Puerta Plata, it would seem that now would be the time to make an intelligent effort to establish new lines of business and new methods in this the richest part of the Republic.

SOUTH AFRICA.

STRONG COMPETITION AGAINST AMERICAN LUCERNE CULTIVATORS.

Consul-General Julius G. Lay reports from Cape Town that the Roberts lucerne cultivator, which took the first prize at the recent Cradock trials in Cape Colony in competition with American machines, promises to become a keen competitor with the latter unless further improvements are made by the American manufacturers. Mr. Lay sends some newspaper statements, from which the following extracts are made, the first being from the Cape of Good Hope Agricultural Journal for February, 1909:

> The Roberts lucerne cultivators are now manufactured in two sizes, and we have received the following particulars and prices from the makers. The No. 1 size machine cultivates rows 4 feet wide, and weighs approximately 1,750 pounds with the harrow; price, £27 ($131.40). The No. 2 machine cultivates rows 3 feet wide, and weighs about 1,000 pounds; price, £20 ($97.33). The harrows can be purchased from the makers for either machine at an additional cost of £3 ($14.60).
>
> These machines have now been improved, and several minor parts have been strengthened. The machines have also been fitted with new worm-gearing attachments, which regulate the depth by simply turning a handle, when the depth can be adjusted as required. The tine holders have also been improved, each tine now being secured by a separate bolt, and the tine holders are fitted with dust-proof oil lubricators.
>
> The teeth are of best quality mild steel, suitable for the purpose, and will stand a lot of wear. The machine is fitted with a steel trough designed to receive sand or ballast for weighting purposes, according to the nature of the soil to be cultivated. The cultivator is raised on the traveling wheels by the hand worm gearing, so it can be transported from one farm to another. A considerable number of these machines have already been sold by the makers, and can be seen at work on the lands of the principal lucerne growers in the country.

A report of the competition alluded to at which the Roberts cultivator took the first prize was printed in Monthly Consular and Trade Reports for October, 1907. Mr. Lay now sends a picture of the Roberts machine, which will be loaned to interested firms by the Bureau of Manufactures.

WORLD-WIDE OPENINGS FOR LUCERNE CULTIVATORS.

The British and South African Export Gazette published the following in its issue for February, 1909:

> In Australia, South Africa, and similarly situated countries lucerne is yearly coming to be recognized as one of the most profitable crops which the farmer can grow, but it is a singular fact that comparatively little attention has been given by machinery makers to the special requirements of equipment for the cultivation of this plant. Yet it is not difficult to outline the principal features of those requirements. A cultivator should be a readily portable machine, with a rapidly revolving drum geared to the traveling wheels, and fitted with long tines which can be adjusted for either deep or shallow work. Most important of all, the teeth should be so adjusted as to clear away weeds without damaging the lucerne. They should have sufficient elasticity of movement in any direction to slip easily off an established root, while picking up the smaller stuff which cumbers the ground. Straight, arrow-headed tines, slightly bent at the extremities, and working much on the principle of a hay tedder, would seem to meet the requirements. These are features which might easily be supplied, and there is no doubt that the maker who offers a thoroughly efficient machine will reap a rich reward. Meanwhile, colonial agriculturists are anxiously scouring the world's sources of supply for such an implement, and some—those of Cradock, Cape Colony, among them—are even offering substantial prizes to the makers who are first in the field.

BRITISH INDIA.

INTRODUCTION OF MODERN MOTOR PLOWS.

In stating that a sample 30-horsepower oil-motor plow is on exhibition in Calcutta, Consul-General William H. Michael briefly describes it:

This motor, it is claimed, has a speed of 2, 4, and 6 miles an hour, and can plow from 10 to 15 acres of ordinary ground per day. The machine was made in London, and appears to be a very compact and practical motor plow. Marshall Sons & Co., Clive street, are handling it, and are sanguine of introducing the plow into India, especially to those engaged in large farming operations. I have repeatedly called the attention of American manufacturers of steam plows and other agricultural machinery to India as a good field for their exploitation, but so far no American firm has taken advantage of the opportunity.

SEWING MACHINES.

ASIATIC TURKEY.

LOSS OF AMERICAN TRADE THROUGH NEGLECT OF MARKETS.

Consul-General Ernest L. Harris, writing from Smyrna, gives the following account of the shortcomings of the exporters of American sewing machines in the Asia Minor field:

The sewing-machine trade in this city is chiefly in the hands of one American company and three merchants, one of whom also represents an American concern. While the "American" sewing machine dominates this market, yet the principal business is not done direct with the United States; that is to say, the number of machines which find their way direct from the United States to this city form a small percentage of the total amount sold. In some cases the molds and principles are furnished by American manufacturers, yet the workmanship and the chief materials entering into the manufacture are European.

The importation of sewing machines direct from the United States has been attempted several times with only partial success owing to the many causes which stand in the way of its proper development. The American manufacturer in general is little prepared or willing to meet the oriental buyer in the question of easy reimbursements, which are usually obtained from the European manufacturer, and while the buyer is made to pay spot cash for any and all orders handed to the American producer, he is not even accommodated to the extent which some absolutely urgent alterations might render necessary in order to make the American goods more suitable for the Smyrna consumer. Is there any wonder then that American goods, generally speaking, find so little favor in Turkey and can not find any initial market, or are superseded by German and other goods which, although inferior in quality, have the advantage of being better adapted to the requirements of the local trade?

HAND-PROPELLED MACHINES REQUIRED.

Through some mistaken idea the opinion seems to prevail in Smyrna that the use of pedal sewing machines is detrimental to the health of the women, hence the majority of the machines sold in

Smyrna are propelled by hand. In spite of this prevalent opinion, however, the American manufacturer has entirely ignored the demands of the Smyrna market in this respect, and has steadily insisted on giving almost his entire attention to perfecting the pedal machine, while the hand machine has received only a small part of his attention and care. This accounts, in a great measure, so I am informed by a dealer, for the somewhat clumsy appearance of the hand machine made in the United States as compared with the elegant style of the same machine produced in Germany. Much improvement could be effected, not only in the sewing-machine trade, but in a great many other branches of industry as well, if the American manufacturer could be made to see his interest in cultivating commercial relations with Asia Minor through concessions and accommodations similar to those offered by his European competitors, in the way of reimbursements and adaptability to market requirements.

BELGIUM.

TERMS OF SALE AND PRICES OF SEVERAL AMERICAN MAKES.

Special Agent Charles M. Pepper furnishes the following report showing prices at which American machines are sold in Belgium:

Sewing machines in Belgium are sold chiefly on the installment plan. The Singer company has a chief agency in Brussels, with about 60 subagencies throughout the country. The Wheeler & Wilson machines are also handled by the Singer company. The standard family machines are received from the Singer factory near Glasgow, Scotland, but special machines, such as those for making buttonholes, etc., are received from the United States.

The method of sale is to grant 15 per cent discount on payment within 30 days, and 10 per cent on payment within 60 days; but the latter period is often extended to 90 days. On machines paid for in installments beyond 90 days a discount of 5 per cent is given provided the installments are paid promptly. Some of the prices of the standard family machines are annexed. These are list prices, on which a deduction of 15 per cent, 10 per cent, or 5 per cent would be made, according to the method of payment. Most of the examples given are for the simple machines without fixtures; but the original price lists are transmitted, and these contain the different classes of fixtures, with the prices, which can be compared with American machines of the same class and fixtures.

	Francs.	Dollars.
Singer family machines.		
28 K.—Hand	110	21.23
Pedal, simple table	150	28.95
Pedal, extension table	155	29.92
48 K. T.—Hand	85	16.40
Pedal	125	24.12
Singer intermediate machine.		
15 K.—Hand	185	35.70
Pedal, simple table	215	41.50
Pedal, extension table	220	42.46
Wheeler & Wilson.		
No. 9.—Hand	140	27.02
Pedal, simple table	200	38.60
Pedal, extension table	205	39.56
No. 11 W.—Pedal, simple table	215	41.50
Pedal, extension table	220	42.46
No. 12 W.—Pedal, simple table, short arm	225	43.42
Pedal, simple table, long arm	250	48.25
Pedal, extension table, short arm	230	44.39
Pedal, extension table, long arm	255	49.21

UNITED STATES.

GENERAL DECLINE IN AMERICAN EXPORTS IN AN IMPORTANT TRADE.

The exports of sewing machines from the United States have been steadily declining during the past few years to nearly all foreign markets. The following figures show the shipments during the past three calendar years:

Countries to which exported.	1906.	1907.	1908.
United Kingdom	$1,733,189	$1,687,622	$1,255,266
France	102,625	104,751	97,748
Germany	1,061,444	1,156,663	1,040,788
Netherlands	428,847	615,166	518,283
Other Europe	504,993	460,444	242,957
British North America	414,572	547,471	811,627
Central America	138,170	143,517	85,811
Mexico	795,747	732,631	520,978
Cuba	318,063	294,721	210,809
Other West Indies	63,196	95,134	59,191
Argentina	603,483	352,005	627,546
Brazil	330,439	541,308	856,392
Colombia	76,929	80,639	73,897
Other South America	423,087	493,753	243,587
Chinese Empire	31,079	41,238	22,068
British East Indies	57,116	50,618	29,364
Japan	178,075	266,949	162,115
British Australasia	514,902	699,636	278,232
Other Asia and Oceania	41,742	68,654	43,257
British Africa	21,862	26,601	16,188
All other Africa	25,529	12,655	8,337
Other countries	189	....	....
Total	1,470,900	1,219,013	1,029,610

OIL AND GAS ENGINES.

JAPAN.

JAPANESE MANUFACTURERS SUPPLYING HOME WANTS.

Consul John H. Snodgrass, of Kobe, reports as follows concerning the great progress made by Japanese manufacturers in the production of gas, gasoline, and oil engines:

Ten years ago gas and petroleum engines were not used in Japan, but within that period they have become so popular that they now represent nearly 15 per cent of the total motors adopted by manufacturers. The number of factories worked by motors in Japan in 1897 was 2,910, none of them using gas or oil engines; the number of factories using motors in 1906 was 4,656, of which 306 were gas and 429 petroleum engines.

It is evident, therefore, that during the past decade a great impetus has been given to the gas and oil engine trade in every known branch of industry in Japan, from the manufacture of iron and steel down to the making of lemonade and mineral waters, but in looking over the customs returns for 1907 it is seen that the United States is securing only a small share of the sales in these lines, the imports of American gas, petroleum, and hot-air engines amounting to $14,025, while the imports of American steam engines and boilers amounted to $186,119.

It would appear, both from statistics and by the assertion of dealers, that the field for American gas and oil motors is not an inviting one, owing to the strong competition of Japanese manufacturers, and also on account of the fealty displayed by the average Japanese dealer in behalf of Japanese products.

PRICES OF JAPANESE GAS AND OIL ENGINES.

One of the Kobe iron works is manufacturing a horizontal engine of the latest pattern which can be converted into a gas engine. The manufacturers claim that it can be worked with a very small supply of kerosene, and that it is safe, economical, and simply built. It is used principally for cleaning rice, printing, lithographing, ink manufacturing, cotton spinning, flour mills, electrical works, cotton ginning, manufacturing tobacco, irrigating, pumping water, match manufacturing, sawing, manufacturing mineral waters, etc.

The Kobe engine sells at $165 for a 2 horsepower, $305 for a 5 horsepower, and $700 for a 15 horsepower, with proportionate prices for intervening sizes. The Osaka horizontal engine sells at $125 for 1½ horsepower, $325 for 5 horsepower, and $1,000 for 20 horsepower. [Illustrations of these engines may be seen at the Bureau of Manufactures.]

JAPANESE GAS AND KEROSENE.

Up until 1900 the number of gas plants in Japan was limited to a very few, so that the demand for gas engines was practically nil, but with recent development quite a number of gas plants have been installed in various cities, and the product has been manufactured so reasonably that it is possible to operate gas engines at comparatively small cost. Formerly all the kerosene consumed in Japan was imported from the United States, and consequently the prices were somewhat high. With the discovery of oil in Japan, however, supplies of petroleum and its by-products have been obtained in large quantities and the price of this commodity has necessarily been lessened. The best kerosene oil sells at $2.09 per 2 tins of 4 gallons each in 1 box; the same quantity of ordinary kerosene brings $1.94; quotations for the best gasoline, same quantity, are $2.74; ordinary, $2.51.

The price of gas at Kobe and Osaka is $1.15 per 1,000 cubic feet, less 5 per cent if the amount exceeds $25.

BRITISH INDIA.

OPENING FOR THE SALE OF SMALL ENGINES AND PUMPS IN MADRAS.

Consul Nathaniel B. Stewart furnishes the following information concerning the increasing use of small engines and pumps for irrigating purposes in that part of India:

To describe the exact conditions existing concerning the demand for machinery of the kind mentioned, I will quote from a communication, dated May 18, 1908, from A. Chatterton, the director of industrial and technical inquiries in the Madras Presidency, to the secretary of the board of revenue, and presented before an industrial conference of the Presidency held at Ootacamund during the week September 14–19, 1908.

PROGRESSIVE EXPERIMENTS.

In his letter the director said, in part:

> In 1902 experiments were first started in lifting water by means of oil engines and pumps, and from the small beginning at Melrosapuram an important development in the water supply of the country has resulted. Upward of 100 engines and pumps of various sizes have been installed, and vast bodies of underground water are being explored and opened up by the use of boring

tools. Several thousand acres of the best cultivated land in the Presidency have been brought into existence, and the profitable nature of the work is best indicated by the rapid recent growth of this way of lifting water. Much money has been devoted to the erection of pumping plants and the improvement of the land, and where water in sufficient quantity exists, the returns have been of a most encouraging nature. Of late it has become increasingly evident that there is a wide field for the employment of modern machines, driven by oil engines, in preparing agricultural produce for the market, and though as yet little has been accomplished, there is no doubt that if carefully fostered it is capable of great expansion. What is wanted to aid progress almost more than anything else is that the pioneers in these matters should be able to secure at moderate cost capable and disinterested advice regarding the machinery they desire to purchase. To enable this to be given, experience must be acquired, and experimental work in this direction has been started, chiefly so far with the different types of oil engines and suction gas-producer plants which are on the market.

Much machinery is made and offered for sale in India which really is not suited to the requirements of the people, and the many failures which are written broad over the face of the country deter further attempts in this direction. The thorough examination and testing of machinery of all kinds to determine whether it is suitable or not for the purposes intended is a most useful branch of our work, and, as already mentioned, a beginning has been made in this direction.

From the foregoing it will be seen that while the work of installing oil engines and machinery for irrigation purposes is comparatively small, it is gaining a sure foothold, and, as the director states, is capable of great expansion. Also from the increasing use for irrigating purposes is likely to grow a demand for such machines in other directions. It therefore behooves American dealers to be on the watch lest they lose an opportunity to enter a field which may possibly become a great market.

FOAM FIRE EXTINGUISHER.

NEW GERMAN APPARATUS FOR SUBDUING FLAMES AMONG COMBUSTIBLES.

Consul Thomas H. Norton, of Chemnitz, submits the following description of a new German mechanism for fighting fire:

Fire chiefs and insurance companies are familiar with the dangers and difficulty inherent to combating conflagrations where petroleum, gasoline, benzine, or other liquid hydrocarbons, lighter than water, are involved. As is well known, the attempt to extinguish with streams of water in such cases results usually in a spreading of the inflammable liquid, an increase of the area of combustion, and a greater intensity of conflagration. The use of steam or of a current of inert gas is available only for incipient conflagrations in well-closed rooms. It presupposes, also, the permanent location on the spot of stationary apparatus for the purpose.

A distinct step forward in the means of battling with such conditions has been made in Germany, where the use of a tenacious foam, dissipated with difficulty, has been found of great value in cutting off the supply of air necessary to maintain combustion, and thus extinguishing flame. The method and the requisite apparatus have been perfected by a well-known Prussian manufacturing company at Salzkotten, near Minden, Prussia, and have been submitted to exhaustive tests by fire chiefs and others interested in the question of protection against the dangers from combustible liquids. The apparatus employed consists of a simple metal cylinder provided with a long spout and divided into two chambers. One chamber is charged with an aqueous solution of potash alum and sodium sulphate, the other with a similar solution of sodium bicarbonate, sodium sulphate, and licorice-root extract.

EFFECT OF THE CHEMICAL COMBINATIONS.

The cylinder is so arranged that on being inclined or reversed the two solutions mingle as they issue from the spout. There is no pressure evolved, and consequently the liquid does not issue with sufficient force to cause a spattering of the burning hydrocarbon upon which it may be poured.

The result of the chemical reaction between the alum and the bicarbonate is a prompt evolution of carbon dioxid, which, in contact with the licorice solution, forms an exceedingly stiff and persistent foam.

Such a layer of foam containing an inert gas upon the surface of a burning liquid effectually cuts off all access of air and combustion necessarily ceases. The temperature of the liquid may have reached a sufficiently high point, so that through evaporation bubbles of the vaporized hydrocarbon rise for a time through the stratum of foam and tongues of flame flutter over its surface. These soon cease, for simultaneously with the evolution of the carbon dioxid there is a loss of latent heat, the temperature of the foam-yielding solution falls, and this, in turn, cools down the combustible liquid. The solution acts thus in a double manner as a protective agent.

TESTS BY A FIRE DEPARTMENT.

Among the numerous tests to which the apparatus has been submitted by the heads of fire departments, the following, by the chief of the Hanover department, might be cited:

An iron vessel, 5½ by 2½ feet in size, 4 inches deep, received a charge of 18 gallons of benzine. Benzine was likewise poured on the ground where the vessel rested. The liquid in the vessel and outside the same was lighted and allowed to burn for three minutes. The contents of two foam extinguishers were then allowed to flow over the whole. Combustion was promptly arrested. The superincumbent layer of foam was then removed and the benzine lighted anew. The attempt was now made to extinguish the flames by means of water, first with a simple portable house extinguisher, and then with the use of the city water supply issuing from a 2-inch hose. In neither case could the fire be extinguished. On the contrary, the area of combustion was rapidly extended, until it covered over 40 square yards. It was then necessary to discontinue the use of the hose, on account of the danger to the buildings surrounding the court in which the experiment was conducted.

The success attendant upon this and similar tests has led to the conviction among authorities on protection against fire that the foam extinguisher is capable of rendering valuable service in all places where combustible liquids are stored, such as groceries, drug stores, etc., and especially in automobile garages and motor yachts. The use of liquid fuel for rapid locomotion by land, water, and air is extending so swiftly that the new protective will meet a distinct need in every land. It would be an indispensable adjunct to the introduction of explosion motors in ocean liners. [Two illustrations showing the new foam fire extinguisher are filed for public inspection at the Bureau of Manufactures.]

LAUNDRY EQUIPMENT.

GERMANY.

AMERICAN MANGLES USED—NATIVE FELTS OUTSELL FOREIGN ARTICLES.

In reply to a correspondent, Consul-General Robert P. Skinner, of Hamburg, has the following to say about the use of felts and laundry machinery in Germany:

There are in Germany several thousand mangles in operation, from 100 to 150 bosom-press machines, and perhaps 400 ironing machines. The bosom presses are only beginning to be used. The mangles are usually of German manufacture, but about 10 per cent are of American make.

American felts are quoted at 65 cents per pound, f. o. b., while German felts can be had for 60 cents per running meter (meter = 39.37 inches), delivered. The German felts are 1.2 meters wide. However, as there are many varieties of felts on the market, no absolute comparison of prices can be made without samples. [Addresses of Hamburg laundries and dealers in laundry machinery and supplies are on file in the Bureau of Manufactures.]

DENMARK.

FELTS FURNISHED BY HOME FACTORIES, GERMANY AND ENGLAND.

Consul-General Frank H. Mowrer, of Copenhagen, in stating that modern machinery is extensively used in the laundries of Denmark, and that the business is progressive, gives some particulars of the business:

Many different kinds of felt are used on mangles, bosom-press machines, and on ironing boards. The most common is the "Svanebaj," of Danish manufacture. Its cost is 67 to 74 cents per Danish alen (24.71 inches), of a width of 2½ alen. An English felt (brown) is also used, the cost of which is 27 cents per alen of a width of 2 alen.

For collar and cuff ironers a cotton blanket is being introduced which costs about half as much as the English felt. For press machines a very heavy felt is being introduced from Germany. It costs $4.84 per square meter (10.764 square feet). The consumption of felt for laundry purposes is considerable, as after a short time it must be renewed. [The addresses of the principal laundries in Denmark are on file in Bureau of Manufactures.]

WORLD PROGRESS.

DEVELOPMENT OF RESOURCES.

JAPAN.

RECENT DEVELOPMENT OF INDUSTRIES AND NATURAL RESOURCES.

The following report was prepared by Vice-Consul-General E. G. Babbitt, of Yokohama, in reply to inquiries made by the Commercial Commissioners representing the Pacific Coast Chambers of Commerce with a view to enlarging commercial relations between the United States and Japan:

It is customary for the Japanese Government to send abroad students and others who have shown exceptional ability or aptitude for the purpose of studying industrial and commercial conditions, methods, ways and means, and also to search out markets for Japanese goods. The system commenced shortly after the Chino-Japanese war.

The number thus sent has increased from 12 in 1896 until in 1906 it is estimated there were 85 of these agents abroad. These of course do not include private students in colleges in foreign countries, special agents of private companies, or manufacturers going abroad to investigate and purchase machinery for private plants. The countries to which these investigators are sent are the United States, England, Germany, France, China, South America, Australia—in fact, anywhere that special subjects are to be investigated, processes learned, conditions observed, or information gained likely to be of value to the industrial or commercial development of Japan.

Reports are made to the minister of the department of agriculture and commerce, and by this department made public, if deemed advisable, through the Official Gazette or otherwise. When found expedient, the department of agriculture and commerce urges the different chambers of commerce to take action.

WAGES AND LIVING EXPENSES.

It is impossible to arrive at accurate figures of wages, for the reason that they vary to such an extent in different parts of Japan, to the apprentice systems, and to the absence of any labor organization's rulings as to what a certain trade shall pay, irrespective of the difference in the value of the work of the individual workmen. Wages, too, in the ports where foreigners employ labor are much higher, and foreigners are generally expected and "allowed" to pay more for the same service. The request for the average railway wages covers so many different occupations that it has not been possible to strike any average, and detailed information has not been obtainable as yet. Trackmen receive about 50 per cent more than day laborers, who now receive an average of 25 cents a day. There are so many varied occupations connected with the building of the modern steel vessels in Japan, as elsewhere, that no statistics are furnished.

There are no statistics on the subject of living expenses, and the average is a difficult matter to estimate. The gradual increase in wages has kept pace with the increase in the cost of living, and it is evident that the wage-earners have been able to live on what they have earned. The bare cost of existence is extremely low. That the average wage-earner is able to save is best shown by the figures of the postal savings banks, which are usually patronized by the poorer classes. The following table shows the amount of savings in postal savings banks and other savings banks throughout the Empire at the close of 1890, 1900, and 1907:

Year.	Postal savings banks.	Other savings banks.	Total.
1890	$9,718,392	$1,830,577	$11,548,969
1900	11,958,530	24,630,372	36,588,902
1906	45,364,868	57,147,184	102,512,052

It is estimated that the amounts in the postal savings banks represent over 8,000,000 depositors.

CHANGE OF DIET AND CLOTHING.

Bread, meat, and potatoes have been added to the former diet of the Japanese, which consisted of fish and the vegetables indigenous to the country. The men at the front during the Russo-Japanese war were often fed on beef and bread or biscuits made from American flour, and this created a taste or appetite which had to be catered to on their return, and other articles followed, so that during and after the war there was considerable increase in the use of meats and flour, canned goods, fresh and condensed milk, butter, and foreign foods generally.

There were a great number of farm hands in the Japanese army during the war, and the use of meat and other unusual articles of diet led to the increased demand for these commodities on the return of these men from the front. This change is felt less, however, among the farm hands than among any other classes, although more potatoes and bread are consumed by this class than was the case with them prior to the war with Russia.

There was a gradual adoption of foreign (American or European) style of clothing for manual laborers, as the demand for such laborers increased. The usual Japanese costume is ill-suited for the workshop, factory, or store where clothing permitting freer movement is required, and foreign dress was made compulsory in certain occupations. Foreign-style clothing being also required in the army and navy led to increased familiarity with it and increased demand after the war. The experience of soldiers in the cold of a Manchurian winter led to a demand for warmer clothing, woolen goods, etc. An example of the increased demand for warm clothing is shown by the orders for men's underwear. This was formerly ordered from abroad in the proportion of ten undershirts to two pairs of drawers, but the proportion now ordered is generally seven shirts to five pairs of drawers.

INDUSTRIAL AND OTHER SCHOOLS.

Industrial schools in Japan have been established by the Central Government and by local municipalities. The Nautical School, Tokyo, in 1906–7 had 278 scholars in navigation and 200 in engineering, graduating 28 and 24, respectively. Agriculture and forestry are taught in Morioka, in northeastern Japan, having in 1906–7, 29 instructors and 237 students, graduating 62; a similar school is to be established in Kagoshima, Island of Kiushiu. There are also six higher technical schools, maintained by the Government, at Tokyo, Osaka, Kyoto, Nagoya, Kumamoto, and Sendai, with another projected for Yonezawa. These schools have a three-year course. In the Tokyo school are taught dyeing and weaving, furnace work, applied chemistry, mechanics, electricity, and industrial designing. Osaka teaches mechanics, applied chemistry, dyeing, furnace work, brewing, metallurgy, naval architecture, and marine engineering. Kyoto has dyeing, weaving, and designing. Nagoya, civil engineering, mechanics, architecture, weaving, and dyeing. Kumamoto teaches civil engineering, mechanical engineering, and metallurgy; Sendai the same as Kumamoto, adding electric engineering. The Tokyo school has an apprentice school attached. There is also a Government Fisheries School and three institutions for training teachers for the technical schools. In addition to the above Government institutions there were, in 1906–7, over 4,000 schools, private and public (municipal), dealing with all lines of industry and commerce.

Practically all schools above the national primary schools include English in their studies. A six-year school course is compulsory, of which four are spent in the lower elementary school and two in the upper; the upper school has a four-year course, but only two years are compulsory; English is taught in each year. The middle schools have a five-year course, in which English is taught six hours per week for the first two years, and seven hours per week for the last three years. The Central Government maintains eight high schools, at Tokyo, Sendai, Kyoto, Kanazawa, Kumomoto, Akayama, Kagoshima, Nagoya. The necessity for the students to learn one or two foreign languages is responsible for the existence of this grade of school. The course is divided into three classes: (1) For candidates for law colleges or literature in the imperial universities; (2) for candidates for the colleges of pharmacy, engineering, science, and agriculture; (3) for candidates for the colleges of medicine. In the first division, English, German, and French, two of which can be selected, are taught eighteen hours weekly for the first two years and 16 hours in the third year. In the second division, the same, with shorter hours, eight in the first year; seven in the second, and four in the third. In the third division, German, as preparation for German universities, thirteen hours weekly for the three years, and English and French three hours weekly.

The Tokyo Foreign Language School teaches English, German, French, Russian, Italian, Spanish, Chinese, and Korean. Figures for

1906-7 give 54 instructors and 1,048 students, graduating 522. This school has a three-year course, with two-year postgraduate.

The number of Japanese who can talk a little English is considerable, but the number who have a knowledge of the language would probably be overestimated at 1 per cent. One would suppose, from the attention paid to the language in the schools, as noted, and to the fact that night schools are common in this vicinity for this study alone, that the percentage would be large, but the teachers are for the most part native Japanese. A far larger proportion of the population are able to read and write English fairly well than can speak it.

Probably less than one-tenth of 1 per cent of the people speak French, and these are largely confined to those educated in Europe and prepared for European education or for the diplomatic service, the greater proportion in Tokyo. Probably less than one-fifth of 1 per cent understand German. The greatest proportion among the German-educated are of the medical profession.

SUBSIDIZED MERCHANT MARINE.

The subsidizing of Japanese ships has resulted in a great increase in the tonnage of the merchant marine. The amount of such aid by the Central Government has increased from $1,726,565 in 1898 to $6,170,566 in 1908. A decrease took place in 1904 and 1905, on account of the war, but the 1908-9 budget carries the largest amount ever devoted by Japan for this purpose, and additional amounts are being asked for and will probably be forthcoming, as, for example, for the line to South America, which it was found could not be a success without state aid. The following table gives the figures for the budget of 1908-9:

Description.	Subsidy.	Description.	Subsidy.
Encouragement of navigation	$1,735,009	Coasting service	$174,798
Encouragement of shipbuilding	993,729	Ogasawara (Bonin Island) service	8,466
Subsidy to European route	1,331,600	Islands in Kagoshima	11,354
Subsidy to San Francisco route	508,912	Oki Island	2,689
Subsidy to Seattle route	325,707	Hokkaido coasting service	89,915
Subsidy to Australian line	212,039	Idzu Island service	3,765
Subsidy to far eastern service	263,940	Tairen service	69,721
Subsidy to inland Chinese navigation	399,400	Okinawa (Loochoo Island) service	2,690
Training of mariners	2,190	Okinawa remote islands	4,482
Lifeboat work	9,460		
For calling at Korean and North China ports	24,900	Total	6,171,066

The grants for the European and San Francisco routes expire in 1909, and the shipbuilding aid ceases to be operative after 1911, but these subsidies will undoubtedly be continued, as it seems to be the opinion that Japan's merchant marine is not yet in such a satisfactory condition that state aid can be dispensed with.

INVESTMENT OF FOREIGN CAPITAL.

Foreign capital invested in Japan is more largely taken up in the form of purchases of bonds than in direct interest in industries. What amount is so invested is difficult to estimate, but it is in this form and the taking up of shares in industrial concerns that the invitation to foreign capital is commonly made. Collieries, cotton mills, street railways, hydro-electric plants, gas plants, beer breweries, spinning, dry docks, brush manufacturing, glass manufacturing, and others, invite and receive foreign capital and there are many conpanies now inviting capital and others in process of formation, such as the iron foundry of the Hokkaido. French and Belgian capital has recently been active in Japan, but at least one undertaking has not proved a success. While the Japanese require and desire outside help, it is their wish to be in absolute control of the undertakings. There have been industries started in Japan entirely with foreign capital which have not proved the anticipated success, owing to the entire dependence of the foreigners on Japanese labor. Enterprises in combination with the Japanese, however, have better success.

It is impossible to accurately estimate the amount of American capital invested in Japan, but probably it does not exceed $2,000,000, which is largely invested in the Osaka Gas Works and General Electric Company and Western Electric Company. This estimate does not, of course, include the capital of the American business houses having branches in Japan, and always having a considerable floating capital here, or the Americans in independent business in Japan, nor does it include any investments in bonds, etc.

The inducements to the investment of foreign capital in Japan are the high rates of interest on loans and high dividends. For example, the Kanegafuchi Spinning Company, in which considerable foreign capital is invested, has declared a dividend of 16 per cent for the first half of 1908, the Amagasaki Spinning Company a dividend of 40 per cent for the same half year, etc., but general investments in Japan should not be expected to yield such large returns, 10 per cent being a fair average. There were innumerable companies floated immediately after the conclusion of the war with Russia, which never got beyond the promotion stage and caused very considerable losses to an overeager public. The going rate of interest on time loans is 5 to 12 per cent in the cities and 10 to 18 per cent in the country districts.

Foreigners can not own shares or stocks of the undertakings subsidized by the central Government. Foreigners can not own land outright, nor can concessions be obtained to work mines, and coasting trade is forbidden to foreign vessels. Perpetual leases are in force in some of the foreign settlements, formerly concessions, but not elsewhere. However, leases of land to foreigners for 99 years can be arranged.

JAPANESE AS AGENTS FOR THE SALE OF AMERICAN GOODS.

In the Orient generally it might not be so advantageous, but in Japan and Korea, where the consumers are Japanese, the retail trade naturally is largely in the hands of Japanese, and in some places wholly. The particular advantage of having Japanese agents is that they know the language, customs, and purchasing power of the people and if acting as direct agents may not require the same amount of commission as a foreign merchant. With the exception of the very rich houses, the Japanese importers and commission merchants are not always able to finance important deals nor can they carry heavy stocks. It does not always follow, that because they are of the people, they can always compete with foreign commission merchants who have been established in business in Japan longer than many of the most important Japanese concerns. Certain of these strongly established foreign firms have the full confidence of the Japanese Government and compete on all Government tenders. A recent considerable order by the Government was successfully tendered for by an Anglo-American firm, with an American concern third, the Japanese firms coming second, fourth, and fifth.

Americans desiring to invest any great amount of capital in Japan, or elsewhere, would do well to send an American agent to the ground. Japanese agents could advise and would be in a position to know the value of property and premises. The investment once made, reliable agents, such as one of many of the large banking concerns, would be easily obtained.

TARIFF AND NATURAL RESOURCES.

As to the agitation here for an increase of the tariff on foreign goods, the treaty revision committee first met on November 6, 1908, but there will be no authentic information available for some time, as to action taken. At the expiration of the present conventional treaties there will undoubtedly be an increase in certain lines; there will hardly be any reductions.

Japan's mineral resources are of great value, and are being developed along modern lines, although the use of machinery in the mines has not yet become extensive, labor being still so inexpensive that the cost of labor-saving machinery has deterred its introduction and use. The following statement shows the value of output of the mines of Japan for the 10 years 1897–1906: Copper, $237,174,492; sulphur, $153,434,298; manganese, $99,076,004; silver, $83,402,958; iron, $44,680,062; coal, $44,500,059; lead, $15,267,186; petroleum, $4,143,360; gold, $3,069,672.

An important item of natural resources of Japan is its fisheries. The average output of marine products for 1906 was $16,704,554, in addition to which there is the value of the catches, amounting to $27,177,852. About 15 per cent of the entire population of Japan is engaged in fishing or in the business of marine products.

The value of forestry products has averaged $28,275,942 for the past ten years.

Raw silk is one of the most important of Japan's resources, the production in 1907 reaching $70,716,000.

JAPANESE FARMERS AND FARM HANDS.

The following extract from an editorial in the Japan Chronicle of July 19, 1908, may be of interest in connection with the consideration of the life of the farm hand in Japan:

> In all countries farmers are credited with being the most conservative class of the population. In Japan they have, no doubt, partaken least in the rapid changes that have transformed the country in little more than one generation; but though the changes are less marked here than elsewhere, it is certain that the conditions of rural life are gradually being transformed. As regards economic conditions, farmers may be roughly divided into three classes: (1) Those having no land of their own, or not more than 1 cho (2½ acres), and, therefore, either working for others or working their small plot without outside assistance; (2) those owning several cho, who hire a few laborers; (3) the large farmers, some of them owning several square miles, employing a number of laborers, paying high taxes, and, not unfrequently, adding the business of money lenders to their other occupations.
>
> If the farmer does not own his land, he usually rents it on the metayer system, prevalent on the Continent of Europe, paying half the value of the crops as rent. A farmer working 1 cho of land can just support a family of five or six. Such a family, we are informed, spends very little, as there is no necessity for buying rice. They can live on 20 yen ($9.96) a month, raising their own barley, beans, and vegetables, beside the staff of life—rice. Their expenses will be about 10 yen ($4.98) per month for food, and the same for clothes, rent, and smaller expenses. Needless to say, this is about the minimum;

but farmers of this class are sometimes very independent, boasting not of what they have, but, more philosophically, of what they do not need. We have heard of one such blaming the extravagance and lamenting the dependent lot of a teacher who spent as much as 25 yen ($12.45) a month on himself, being unmarried; and declaring that, for his part, he bought nothing but salt. His fields supplied him with hemp, which his womankind made into clothes; with rice; with daizu beans, from which he made soy and tofu; with tea, with daikon, and the few other vegetables he needed. This condition of primitive independence was no doubt much commoner in the old days than now.

The yield of rice is estimated at 20 yen per cho ($9.96 per 2½ acres) in average years. Besides this the small farmer will raise by-products such as beans, potatoes, vegetables, melons, etc., to the extent of about 7 or 8 yen ($3.48 or $3.98) per cho. If several cho are worked the farmer must hire one laborer per cho at a wage of from 10 to 15 yen ($4.98 to $7.47); thus the by-products are in many cases the chief or sole surplus profit, and the farmer working 3 or 4 cho, taking into account his larger taxes as well as the cost of hiring, is little richer than his brethren with only one. Low as the wages of farm labor are still, absolutely they are not low in comparison with the general standard of living, and they have increased considerably within the last few years. Three or four years ago, the wage per day was 17 cents for a man boarding out, or 10 cents if living with his employer, and for a woman from 10 to 12 cents in the one case and 6 to 7 in the other. As labor is going up and likely to go up further, employers are beginning to find horses cheaper than men, and it is interesting to learn that many landowners, especially the larger ones, are reforming their fields so as to make the labor of horses more available.

PROBABLE CHANGES—LIFE OF THE FARMER.

With this change will come, of course, the increased use of machinery. A short time ago, farm implements were so scarce and primitive that the short-handled three-pronged fork called kumade (bear's claw), used for weeding in the mud between the rice rows in wet fields, was the only weeding instrument known, as it is still almost exclusively employed; while a comparatively few years ago even this was unknown in many parts; and in Shikoku, for instance, peasants could be seen turning over the thick mud with their hands, which, as our informant graphically put it, "became as rough as pine cones." An average good farm horse can be bought for $35 to $40 and kept for about $1.25 a month. Oxen are more expensive, costing about $50; but it seems to be a matter of local custom whether they are used for draft and farming purposes in preference to horses.

The lot of a farmer in Japan does not seem particularly enviable in the eyes of a foreigner; but by the Japanese themselves it is generally spoken of as being in some respects more advantageous than that of most other classes. The farmer is more independent, though often his self satisfaction is due much more to his ignorance of better conditions than to really worthy motives; he has seldom occasion to be subservient to his betters, and can arrange his own hours of work, at least to some extent. His life, with all its drawbacks, is healthier than those of sedentary workers; and as a class, agriculturists are the longest lived, instances of extreme old age occurring almost exclusively among the agricultural and fishing population. The farmer has more variety of occupation than many handicraftsmen or even some professional men; and in the winter, in the northern part of the country at least, has a good deal of leisure, if he is not too industriously employed in making straw articles, rush mats, weaving, etc. On the whole, and taking the general standard of living into consideration, the Japanese farmer is as well off and contented as his confrères in most other countries, and better off than in some.

CHANGES IN THE HOME LIFE OF WAGE-EARNERS.

Such changes as have occurred have depended largely on the location of the home. Electric light and gas is yearly increasing in use; oil also in the country districts. The sewing machine is found in many homes. Glass is coming into more common use for windows, replacing paper; occasional articles of foreign furniture; better construction of buildings, etc.

These changes cover the last twenty years, marking a gradual change during that period; but there have certainly been no startling changes.

In regard to the vocations of the wage-earners now engaged in industrial pursuits, most of them came from the farming districts, farm hands or engaged in work not requiring perhaps, any great amount of skill or experience. Most of them have to learn the manufacturing business, but industrial and technical schools have been and are training skilled labor. The younger generation has been brought up in an industrial neighborhood, many being trained under the apprentice system, and entering mills and factories after serving their compulsory military terms.

A great amount of work is still "farmed out"—done in the homes of employees of factories, especially in such work as brush making. The regular "piecework" system has been introduced into many factories, such as cotton and cloth mills, electrical and mechanical apparatus factories, and is gaining in favor. It is impracticable to estimate what proportion of the products are made in this way, but the system of having work done in the homes of the operatives exists all through the Empire, in almost every line of goods, excepting sugar, cotton weaving, etc. Such staple articles as matting, brushes, straw braid, etc., are largely done in the homes.

FACTORY OPERATIONS.

The principal industries carried on in factories are as follows: Electrical apparatus, wire, canned goods, cigars, cigarettes, candy, printing paper, sugar, biscuits, glassware, cement, cotton, woolen and silk goods, chemicals, medicines, matches, ceramics, fertilizers, rolling stock, mineral waters, sake, beer, soy, leather goods, lacquer ware, oils, clocks, watches, etc. The variety of manufactured goods made in factories is greatly increasing year by year; the factories are, for the most part, small in size and output.

It is difficult to state exactly what new industries have been established within ten years, as a great many of those mentioned in the following list and the foregoing list were established on a small scale prior to 1897. In addition to the following table there are such minor industries, recently established, as the manufacture of pencils and automobiles, in Tokyo, which are rather in the experimental stage, particularly the latter.

The following table gives the capital of the new and enlarged companies during the period July 1905–1908, the figures being in yen, the yen being valued at 49.8 cents:

Enterprises.	Newly established.	Enlarged.	Total.
	Yen.	*Yen.*	*Yen.*
Banking	57,640,000	102,894,410	160,534,410
Spinning	37,603,000	54,605,430	92,208,430
Electric	145,080,000	41,110,250	186,190,250
Mining	93,120,000	21,750,000	114,870,000
Ice manufacture	33,125,000	1,760,000	34,885,000
Railway and tramway	348,904,000	119,619,800	468,523,800
Manufacturing industry	383,106,800	130,587,000	513,698,800
Navigation	44,000,000	16,900,000	60,900,000
Insurance	42,600,000	21,650,000	64,250,000
Commerce, etc	160,853,000	56,653,150	217,506,150
Total in yen	1,346,031,800	567,530,040	1,913,561,840
United States currency	$670,323,836	$282,629,960	$952,953,796

The above represents the expansion after the war with Russia. In 1896 there were some 1,367 industrial concerns, having a capital of $71,521,764, of which $44,770,200 was paid up; in 1906 there were more than 2,500 industrial concerns having a paid-up capital of $122,940,266. Many of the earlier established industries were assisted by Government subsidies, or were directly inaugurated by the Government. The spinning business absorbs the greatest amount of capital, followed by mining, electric plants, and shipbuilding. It can be said that industry increased its scope in Japan on the basis of the undertakings started before the period of the last ten years rather than the commencement of new undertakings. Such industries as canning, condensed milk, electric lamps and wire, and rolling stock, glassware, and printing machinery, etc., are comparatively modern. There are new enterprises, such as the making of celluloid, now in the experimental stage. The iron works of Japan are comparatively modern; also the manufacture of flax and hemp threads, matches, woolen cloths, etc.

Japan is aiming to, and will, eventually, be able to supply its home requirements for manufactured goods, and compete with foreign countries in the markets of China and the Far East generally. Explosives, cigars and cigarettes, sugar and petroleum refining are among the newer industries.

ORGANIZED LABOR AND STRIKES.

Labor is organized to a certain extent, practically every trade or occupation having its organization. There is not the "union" idea, so prevalent in the United States, and the organizations are purely local as yet, nor is there any immediate likelihood of the forming of stronger labor unions capable of supporting its members during a strike and dictating to employers. These organizations are called "guilds," but have no connection with the recognized "productive guilds," of which there are some 3,800 throughout the Empire.

There are no statistics available and no way of estimating the membership in the trade organizations throughout Japan, but it is obvious that as the number of persons employed in a trade increases the membership in the organization representing that trade increases. The industrial growth of Japan has led to the concentration of large numbers of the working class in industrial and commercial centers, and the consequent exchange of ideas and grievances, bringing also the power of organized effort and the knowledge of such power.

Strikes were particularly noticeable in the year 1907, some of the more important being noted as follows: In January the workers in the sugar refinery at Osaka struck for higher wages; in February cotton printing operatives struck in Tokyo, demanding a 20 per cent increase in wages; some thousand operatives in the Muke spinning mill struck; miners at the Horonai colliery, Hokkaido, struck; operatives of the Mitsu Bishi Drydock and Engine Works, Nagasaki, struck for increase and because a ferry service was discontinued; operatives of the Fuji Spinning Company, Shidzuoka prefecture, rioted, injuring many; a serious outbreak occurred at the Ashio copper mines, near Nikko, the strikers, rioting for three days, wounding several officials, burning and wrecking buildings and causing damage amounting to half a million dollars, the arrival of a battalion of troops restoring order; in March the workers at the Shingu colliery, workers at the Ikushinbetsu, Hokkaido, and about a thousand men at the gold workings in Niigata struck; in April the crews on six steamers in the coastwise trade struck for higher wages, and service was suspended for some time pending an amicable settlement; in June all the mine workers at the Besshi copper mines struck and practically repeated what had been done at the Ashio mine in February, damage being estimated at nearly a million dollars; workmen at the Uraga dock, near Yokohama, struck, and trouble was barely averted by the arrival of a strong police force from Yokohama; workers at the Obiye copper mine struck; in July workers at the Ikuno silver mines demanded 40 per cent increase in wages and reduction in price of rice supplied them, and their demand was granted; operatives of the Kagogawa woolen factory; workers at the Oiwake Coke Works; miners of the Yoshioka copper mines, in Okayama Province; miners in the Yubari colliery, Hokkaido, struck for 20 per cent increase; makers of sake casks made a demand for an increase; in most cases the demands were acceded to, at least in part; in August the male operatives of the works of the Hokkaido Hemp Company struck from dissatisfaction as to wages; in September the Zuzen Printing Company operatives in Osaka went on strike, and its factories had to suspend operations for some time, the strikers demanding 30 per cent increase; men engaged in the hat and cap trade quit work, demanding an increase.

RESULT OF LABOR AGITATION.

There are instances of many other strikes, such as that of the stone masons of Yokohama, who were successful; of the Nakimine copper workers; of the stonecutters of the Oya quarry near Utsonomiya; of the carpenters employed in shipbuilding yards in and near Yokohama and Tokyo; of the harbor coolies of Yokohama.

The foregoing were strikes which came to the public notice; the majority of the labor troubles, partly because of their short duration, and often their distance from the press, are hardly heard of away from the places and parties chiefly concerned. It is reported that the riots at the Ashio copper mines were, to some extent, the result of the workings of a labor agitator, the trouble rising directly from a demand for an increase of 60 per cent, which the company would not consider, though afterwards allowing an increase of 20 per cent.

It is significant that many of the strikes have been successful, and it is rather remarkable that with such examples there have not been more demands.

The Government employs its police force to quell disturbances, act as arbitrators, advisors and peacemakers, often with the greatest success. .In cases of rioting beyond the power of the police to handle, troops are called out and order quickly restored; the Government in such cases follows this by a strict investigation, and convictions of violence are often punished by imprisonment for long terms. Government interference, save by the police, is seldom necessary, however.

BRITISH NORTH BORNEO.

COUNTRY STILL IN A PRIMITIVE STAGE OF DEVELOPMENT.

Consul Orlando H. Baker, of Sandakan, sends the following description of British North Borneo and its principal industries:

Although North Borneo is a British possession and within the commercial sphere of Australia and the United States, very little of it is known in either of the two countries.

It extends from 4° to 7° north of the equator, and contains about 31,000 square miles of land. The capital is Sandakan, situated on the northeast coast on a fine bay of the same name. The largest steamers can enter this bay safely and unload at the wharf.

The town of Sandakan has a narrow rim of low-lying coast, on which the government wharf, warehouse, and custom-house are built, to the east and west of which the Chinese, Malays, and Indians live and have their shops and city markets. In the western outskirts, at the foot of the hills, are two sawmills and a fishermen's village. This narrow rim of flat ground suddenly breaks up into many hills and ravines, making picturesque and healthful locations for residences.

There are about 50 Europeans in Sandakan, mostly government officials, agents for steamship lines, and representatives of companies engaged in cultivating rubber trees, tobacco, or in developing other resources of the state. It is estimated that there are from 8,000 to 10,000 inhabitants in Sandakan not white; most of them are Chinese. Generally they make no effort to learn English, but maintain their own schools and forms of religion.

MODERN IMPROVEMENTS, COAL, METALS, ETC.

There are 800 miles of telegraph and telephone lines, connecting with ocean cable to all parts of the world. There are about 120 miles of railway in operation from a town called Jesselton; but Sandakan, by far the best town in North Borneo, has no railway, no trams, no gas, no electric plant, no waterworks.

So far, coal is mined only at one place in North Borneo—Cowie Harbor, on the east coast. Labuan has coal mines, but is under the government of the Straits Settlements. A wharf has been finished for the Cowie coal mines, and a traveling steam crane installed with a lifting capacity of 3 tons, running on rails to and from the main coal store. To make the new wharf of any use to big steamers improvements must be made in the upper part of Cowie Harbor.

The coal company owns a steam launch and 5 tongkangs (boats), with total carrying capacity of 1,260 tons. These tongkangs are used to bring coal to Sandakan. During the year 1907 this company employed 7 Europeans and 563 coolies; the total amount of coal mined was 9,259 tons. The engine running from the mine head brings down 35 trucks of coal, totaling about 367 tons per train. Steamers coaling at Sandakan represent the Cowie coal as excellent.

The sole right to prospect for gold, silver, copper, tin, zinc, lead, oil, gas, precious stones, and other minerals, has been granted for a period of fifty years to the British Borneo Exploration Company (Limited). This company has not yet made any discoveries of importance.

CHIEF PRODUCTS OF SOIL—EXPORT DUTIES, ETC.

The soil and climate seem to be especially suited to tobacco and rubber. There are 10 tobacco and 6 rubber estates and 2 coffee plantations. The production of coffee has not been remunerative, and the cultivation has decreased; the Borneo tobacco ranks with the best in the world. The value of that exported in 1907 was $1,366,179. As a rubber tree should be 7 years old before tapping, very few of the Borneo plantations are yet paying. However, the rubber exported in 1907 amounted to $62,320, mostly brought in by the natives from wild trees.

The total number of hands employed on the above and other enterprises during 1907 in North Borneo was 10,467 Chinese and Malays, an increase over 1906 of 3,004.

Duties are collected on imports and exports. The duty on exports is levied on most products of the country. The total revenue for 1907 was $709,614. Of this amount $425,134 was for governmental affairs, and the balance went to the British North Borneo Company (Limited).

THE JUNGLE—BORNEO INVITING TO NATURALISTS.

The interior of the country is called the jungle. It is mountainous and heavily wooded. The trees are of great size and variety, furnishing fine timber for furniture and other purposes. The trees yielding camphor, gutta percha, sago, and india rubber are the most valuable, as they bring a large income to the natives. The lumber exported for 1907 was 1,112,831 cubic feet, valued at $294,405, and was shipped to Hongkong.

There is no country in the world more inviting to the naturalist than Borneo. Here are found the flying squirrels, flying foxes, flying lizards, flying frogs, and the natives report flying snakes. Among the most noted birds is the little swift Collocalia Nidifica. Their nests are eaten by the Chinese, and are regarded as a great luxury. These birds build their nests in limestone caves, of a glutinous saliva which they produce from their glands; no sticks or any other foreign substances are used. The collection of these nests is an important industry with the natives, though they pay a tax on all they take to market. The value of those exported from British North Borneo in 1907 was $35,924. They are served at the great feasts of the Chinese, especially at weddings.

FRENCH INDO-CHINA.

PROGRESS OF THE PROTECTORATE OF CAMBODIA IN SOUTHERN ASIA.

Writing from Saigon, Consul Jacob E. Conner gives the following descriptive account of the Cambodia protectorate in Indo China:

The ancient kingdom of Cambodia is now a French protectorate, with its capital at Pnom Penh. Here King Sisowath holds court with a considerable following of officials and supernumeraries of all sorts, while the French Résident Supérieur attends to the business of governing. The area of Cambodia is 120,000 square kilometers, or 46,000 square miles, about the size of Mississippi or a little larger than Pennsylvania. Its population is estimated at 1,800,000, or about that of New Jersey. The surface is in general quite level, though occasionally isolated hills arise from the midst of the plain, and on the northern border a low range of hills separates it from Laos.

Its drainage system is rather peculiar, and greatly modifies the conditions of animal and vegetable life. It consists in the main of the Mekong River, formerly known as the Cambodia, and an enormous reservoir of that river in the shape of a lake known as Tonle Sap. The Mekong is one of the world's greatest rivers, and when at the end of the rainy season it is greatly augmented in volume the water reflows into Tonle Sap, which later swells the volume of the lower Mekong and regulates its overflow. Thus it will be seen why the lower flood plain of the Mekong is never inundated to a great depth, but the inundation, which occurs every year, is of long duration. Tonle Sap is, of course, slowly filling up, and is already at the dryest time of the year almost without water, though a depth of 20 meters, or 65½ feet, is reported for the rainy season. In the more mountainous upper course of the Mekong, according to some accounts, the river rises as much as 30 meters, or nearly 98½ feet.

The waters abound in fish, which the natives have no difficulty in catching. Improved means of fishing would soon exterminate them, for as the waters recede from the lake the fish are driven to its small tributary streams, and the lake thus becomes a natural fish trap. Many of these, as the "mouru," for example, are rich in oil, most of them are edible, and some are considered delicacies. Apparently capital might well be invested in the fish-oil industry.

The northern part of the country is wild and mountainous, the home of the tiger, leopard, deer, elephant, and rhinoceros.

Cambodia produces for export gum, gamboge, stick lac, cardamon seeds, cattle, carabaos, rice, and cotton. Its one port is Pnom Penh.

COTTON GROWING—AMERICAN MACHINERY.

No complete data are obtainable upon cotton culture; one estimate places the exports of 1908, on the basis of the first eleven months, at 250,000 piculs, or 16,534 tons. Practically the whole of this goes to Japan, and less than one-third of the export was ginned. The Japanese use it in the manufacture of the celebrated Japanese crepe, for which its fiber seems especially well adapted, though much shorter than that of the American cotton.

The only cotton mill in Cambodia is that of the Kwong-yeow-chai at Ksach-kandal, about 10 miles from Pnom Penh. The only American machinery so far discovered in Indo China, except sewing machines and typewriters, is at these mills, where there are six gins of the Brown Cotton-Gin Company, New London, Conn., and four oil-seed presses of the C. H. Russell Company, Tompkinsville, Conn. The percentage of ginned to unginned cotton has been decreasing during the last three years, and no sufficient reason is given for the decline.

A considerable portion of the area of Cambodia is said to be suitable for cotton raising, though statistics are not yet available for determining the territory, the yield, or even the amount and value of the product. A great deal of kapok or tree cotton is also produced, which is used in the manufacture of the locally celebrated Cambodian mattresses.

The Cambodians are a docile people, much averse to war. Their language and civilization, unlike those of the remaining peoples of Indo China, are derived from India, as is also their religion. Their country contains various interesting ruins, the work of the Khmers, a race that has quite disappeared. The ruins at Angkor are remarkably well preserved, and are possessed of great beauty. The natives have an abundance of bananas, rice and fish, and want little more. A few cottons and silks furnish all the clothing they need. They are possessed of very little wealth.

SIBERIA.

MORE CAPITAL AND EASIER ACCESS TO FOREIGN MARKETS NEEDED.

The following report concerning the mineral and agricultural resources of Siberia and the movement of Russian emigrants thereto is furnished by Consul James W. Ragsdale, of St. Petersburg:

The question of finding a market for cereals, the chief product of Siberia, is of great importance for this vast portion of Russia. At the present prices on the international market, the latter is accessible only for cereals coming from Western Siberia. The average price of wheat in the ports of St. Petersburg and Archangel during the four years ended with 1905 was 50 cents per 36 pounds.

The cost of transportation of the grain products from Barnaul and Semipalatinsk, if the Omsk-Semipalatinsk railroad with the Pavlodar-Barnaul branch is built, will amount to about 26 cents per 36 pounds. Thus the difference between the port price and the transportation cost amounts to 24 cents per 36 pounds. Deducting expenses and the cost of transport to Barnaul and Semipalatinsk, about 5 to 7 cents per 36 pounds, the port price will be 15½ or 17½ cents per 36 pounds. With the influx of immigrants the price of grain must fall still more. With the usual yearly immigration of 30,000 families into the Altay, Akmolinsk, and Semipalatinsk regions, an annual surplus supply of 11,000,000 poods (6,205,400 bushels) of grain is obtained, which must cause a further fall of prices. The foreign market could be rendered accessible for Siberian grain with the help of the Siberian rivers and the Arctic Ocean, but this will require long years of study, tests, building ports, raising capital, etc.

MINERAL WEALTH OF SIBERIA AND EMIGRATION THERETO.

Therefore in order to prevent an overproduction of grain in Siberia and a crisis, it is necessary to take all possible measures for developing the Siberian markets not only for agricultural, but also for industrial purposes. The chief drawback in the development of industrial life in Siberia is the lack of large capital. The book entitled Useful Minerals of Siberia, by Engineer Reutovsky, gives a full description of the mineral wealth in the Altai region. According to this work there is no locality in the world where deposits of copper ore are so richly dispersed by nature; for instance, in the Karkaralinski Mountains, where the deposits contain from 22 to 28 per cent of ore. The same mountains abound in silver-lead, iron, manganese, and gold deposits. This part of Siberia is almost uninhabited; from Semipalatinsk to Sergiopol, a distance of almost 200 miles along the road and of 133 miles on each side of the same, there is not a single village. It is to be expected that the building of the Omsk-Semipalatinsk railroad line with the Barnaul branch will transform this desert land into a rich industrial center.

The movement of immigrants who crossed the Urals from January 1 to November 1, 1908, reached 728,804 persons of both sexes, against 556,447 for the same period of 1907, showing an increase of 31 per cent. The number of persons returning from beyond the Urals during the same period was 36,637 men.

In the estimate of the immigrant department's budget a sum of $5,224,000 is included for loans to be issued to the immigrants for their first farming needs in settling on new land. These loans are issued by the local branches of saving banks.

INDUSTRIES.

PRODUCTS AND CONDITIONS.

CHINA.

CONDITIONS IN THE INTERIOR OF CHINESE PROVINCE OF SHANTUNG.

Vice-Consul C. L. L. Williams, of Chefoo, forwards the following report concerning the industries and general conditions in a part of the interior of the Chinese province of Shantung, prepared by Mr. A. W. Gilbert, of the Chefoo office, after an extended tour through the region:

The chief places for the manufacture of lace, handkerchiefs, etc., are Loti and Dzongchiachuang, each 25 miles southwest of Chefoo, but at different angles. All the work is done in the homes or in very small workrooms, and the thread and foundation cloth are purchased in Chefoo, where the finished product is largely marketed. It is in this district that The Chefoo Industrial Mission has established workrooms in connection with schools, the output of which is handled by a British house at Chefoo, which firm also places orders for specific patterns to be filled by these schools and retailed at an advance of from 100 per cent to 400 per cent above cost. The Chefoo Silk Store, Chinese, also places orders in this district.

The principal centers for the manufacture of pongee silk cloth are Tangchiapoa and Taotsun, 55 and 35 miles, respectively, southwest of Chefoo, Taotsun being on the direct road from Chefoo to Laiyang and Tangchiapoa on the road to Laiyang via Chi Hsiahsien. These factories use only Shantung cocoons, Tangchiapoa using the oak and Taotsun the much superior and rare mulberry cocoon, which is grown in the immediate vicinity. The work is all done by the aid of homemade reels and looms, and the mulberry cocoon can be reeled about five times faster than the oak. The Taotsun cocoon crop this year was unusually small. The Chinese manager of the Hwatai filature in Chefoo (where only thread is made) estimated the cost of 100 pounds of silk at about $350 Mexican, and said that they sold it for about $450, thus making a profit of about $1 (50 cents gold) per pound; the cost and selling price varying from year to year, but the ratio remaining about the same.

THE FOUNDRY AT HWANGHSIEN.

The Ting family, consisting of three houses, at Hwanghsien, are the wealthy people in this section of Shantung. One of their palaces has been equipped with an excellent electric light plant, including a dynamo, with which the residence, grounds, and entrance are profusely illuminated. This same home also operates a cinematograph for the pleasure of its friends.

This family owns and operates a foreign-equipped foundry, which lacks only auxiliary motive power, all lathes, etc., being operated by hand. The buildings are patterned after the capacious foundries in other countries. The manager is a former pupil of missionaries in Dalny, and later in Tientsin, by whom he was induced to take up engineering. In the western part of the city is a large branch foundry for the molding of the kwoa (vessel) which is fitted into the top of all Chinese stoves for cooking purposes, as well as heating water, etc. I was told that the excellent quality of this product has made it known throughout China, so that these vessels are shipped in large numbers to other parts of the Empire, as well as enjoying a large local market. This branch was, until recently, located at Lung-kow, the seaport for Hwanghsien, 13 miles west. The British have for some time been trying to get this port opened for trade—a British firm having been doing considerable business there by importing mules from Tientsin and raw silk and cocoons from Newchwang, and exporting cattle to these ports. The silk goes to Changi, where it is made up into cloth and marketed at Chefoo and Tsingtau, and the mules are scattered among the farmers. The fact that the Chinese Government surveyed this port about a month ago, preparatory to opening it in the near future, caused this British firm to withdraw into the interior.

COTTON FACTORIES.

The Ting family also own and operate a 30-loom cotton factory, which stands in a compound adjoining their foreign foundry, in Hwanghsien, which has a capacity of 1,200 yards daily of cloth, varying from 14 inches to 5 feet in width, and where they turn out 120 different varieties of colored, striped, and plain goods, including bed covers and turkish towels.

All along the route from Hwanghsien to Laiyang, via Laichowfu, Changi, Weihsien, and Pingtu, there is considerable cotton reeling and spinning. At Laichowfu I visited a small cotton factory which was turning out nicely woven blankets, the Changi and Laiyang districts being engaged quite largely in silk spinning and reeling, the latter place producing about 20 pretty shades of thread. Silk is also produced around Kiaochow.

These cotton factory looms, like the silk looms of Ch'i Hsia, are homemade, but are far superior to the latter, in that they turn out about five times as much daily. From a cursory examination, the only difference in construction seemed to be in the shuttle, which was automatic in the one and propelled by hand in the other.

SOAPSTONE, MARBLE, ETC.

Laichowfu is known all over China on account of the soapstone quarries near by. The crude material is brought from the hills, 5 miles away to the east, to the villages, where it is chiseled and scraped into idols, slate pencils, and innumerable toys and designs of every description. The chips and powder are made up into small square cakes or shoe-shaped molds, and marketed for use as whitewash, being very extensively used as such in China.

All over northern China may be seen the roadside monuments of the Laichowfu marble. The elaborate designs in marble of the Lama Temple, Yellow Temple, Hall of the Classics, Confucian Temple, the covered and the open altars in the Temple of Heaven, the Forbidden City, and the Agricultural Temple—all in Peking—as well as of the

Summer Palace in the Western Hills and the Ming Tombs to the north of the city, could very easily have been worked from the Laichowfu quarries, so identical is the quality.

From Laichowfu to Pingtu via Weihsien straw braid is locally manufactured. Shaho is the principal market. I saw numerous Chinese agents at this city engaged in buying this product from the small producers and sending it down to Tsingtau. This, however, was recently reported on by Vice-Consul Williams.

Quite a business is also done in the donkey markets of Laichowfu, Laiyang, and Chefoo. I passed several droves of young donkeys on their way to one or another of these three markets, as well as herds of swine, strings of cattle, and flocks of sheep. Thousands of cattle are being shipped from Chefoo to Vladivostok, and an unusually large shipment of cocoons has just arrived at Chefoo from Antung.

I am told that 50 of the 102 counties in this province will need help this winter to tide them over until the spring crops. As early as last August famine refugees began to reach Chefoo from the western part of the province, and I met women and children drawing all their earthly possessions along on wheelbarrows toward Chefoo, where the guilds maintain a free soup kitchen for them every winter. After passing Laichowfu, the price of food and provender for my horse began to rise, and at Weihsien it had doubled. Famine prices began there last summer and were still rising. The famine is due to a light rainfall for the past two years. I am told that a series of dams on the mountain streams, which seep their way across the plains in sandy river courses to the sea, would be of immense value in storing the water supply; also that wells run by windmills would meet the need, as there is plenty of water at a depth of a few feet, and a fairly reliable wind. There are also occasional elevations on the plains—mountains farther back—where reservoirs could be constructed.

CURRENCY USED—HARBOR OF LUNGKOW.

Before starting on this 400-mile trip I was told by a native that I would have no trouble with exchange provided I carried either Mexican dollars or the notes of a certain well-known Chefoo bank, but after repeated attempts to cash one of the notes on the outskirts of Chefoo, I learned that Mexican dollars were the only reliable medium. The stores and native banks in the suburbs of Chefoo did not care for paper money. Some did not have enough silver ($10) in their shops to cash a note, having only cash or one-cent pieces. Upon arriving at Hwanghsien I at once began to negotiate for the exchange of the same note and after repeated failures a native banker accepted it at a discount. I was told that a personal check on the Chefoo bank would be readily accepted at Hwanghsien, but that notes were so rare—60 miles from Chefoo—that no one wanted them, all preferring cash, coppers, or silver, and would not accept outside notes if they could help it.

Mexican dollars were accepted everywhere after shroffing, it being no insult to test the coin in your presence, as it is the invariable custom. All large concerns employ a shroff for this purpose, as there are so many slightly debased as well as spurious coins in circulation.

The harbor of Lungkow (Dragon's Mouth) is 7 miles wide at the entrance and has a sand bar which forms a breakwater for 5 miles across the opening. The inner harbor, according to information, has a low-water mark of from 11 to 13 feet, and storms seldom disturb the shipping inside. The business of the port closes and opens each year with Tientsin and Newchwang, because the total business from other points does not at present require the attention of the foreign agent. The same irregular steamer which plies weekly between Chefoo and this port also touches at Tengchowfu, Tiger Head (off Laichowfu), and Yangkiakow. A large coolie traffic is carried on at Lungkow at the opening and closing of Newchwang.

[An outline map of the province of Shantung, a pamphlet price list of pongee silk, and samples of silk lace and pongee silk are on file in the Bureau of Manufactures.]

SCOTLAND.

NOTES ON FACTORY AND MERCANTILE OPERATIONS FOR PAST YEAR.

Consul Rufus Fleming, of Edinburgh, has prepared the following excellent summary of Scotch trade and industry for 1908:

The building trade was exceptionally dull in every city and town.

In the ornamental and light foundry business all shops worked on short time.

Cast-iron pipe foundries were kept running at a little more than half their capacity.

The Scotch cotton industry was not prosperous. Last year accentuated the tendency in this trade to drift away to Lancashire.

Returns from ironmasters show that the total production of pig iron in Scotland was 1,230,191 tons, as compared with 1,403,447 tons in 1907.

Iron and steel tube makers suffered severely from the keen competition of American and German firms. After midsummer orders fell away and prices declined.

The finished steel and iron trades never experienced a worse year. It is estimated that the output fell at least 25 per cent short of the normal of the existing plants.

At all Scotch ports except Leith the harbor traffic, taken as a whole, was well maintained. The tonnage lost by the regular liners was fully made up by tramp steamers, though handled at comparatively low rates.

In woolen manufacture the volume of production was not far below the average, but prices were depressed. Firms making high-grade woolens and worsteds were busy throughout the year. Many of the hosiery mills were fully and profitably employed.

The principal features of the whisky trade were a decline of about 300,000 gallons in the home consumption and an increase of exports by 310,506 gallons as compared with 1907. Exports for the first eleven months of the year amounted to 7,558,528 gallons.

MACHINERY, TIMBER, STONE, AND LEATHER.

Reports from electrical engineering firms show that they made steady progress. The volume of electrical work increased somewhat for coal mines, steel works, and other branches of production, while the demand upon municipal corporations for electrical energy did not decline.

As a rule, manufacturers of general machinery say that their shops were well employed. This applies to sugar machinery, hydraulic machinery, laundry machinery, bridge work, power pumps, air compressors, valves, and marine auxiliary machinery. The output of machine tools was much below the average.

The timber trade was fairly satisfactory. The demand for yellow pine has increased, as the prices of many of the woods heretofore substituted for it for finishings in house building, notably Canary white wood, are now such as to make the use of yellow pine more profitable to the consumer.

Aberdeen, the home of Scotch granite, exported 9,561 tons of the dressed stone and imported 27,390 tons of granite from Sweden and Norway. For monumental purposes, it seems, the Scandinavian granite, which differs little from the Scotch in quality, can be obtained at a lower price than the home product.

In marine engineering, the year's work represents a total of 528,702 indicated horsepower, as compared with 742,299 in 1907, a reduction of 213,597 indicated horsepower. Of this total, Clyde firms produced 474,400 indicated horsepower and East Scotland firms 52,302 indicated horsepower. Few highly powered vessels of any class were built in Scotch shipyards.

Increased prices of raw materials, which could not be covered by advancing the prices of finished goods, caused extreme dullness in various branches of the leather industry, including shoemaking and harness manufacture. In the shoemaking trade, labor-saving machinery from the United States is becoming a more and more important factor.

MOTORS, SHIPBUILDING, AND LOCOMOTIVES—COMPANY PROMOTING.

Sales of motor cars increased considerably as compared with the trade in 1907, but the failure of two Scotch motor-car manufacturing firms indicates that the industry has not been in an entirely sound condition. Whether these failures were due to bad management or to unsuitable cars, the blow was a severe one to automobile manufacture in this part of Great Britain.

The slump in shipbuilding was the most remarkable feature of the general industrial decline. The output shrank from 682,872 tons in the previous year to 400,211 tons in 1908, a decrease of over 40 per cent. Following the record total of 623,618 tons built on the Clyde in 1907, the Clyde output last year fell to 355,603 tons. For other Scotch ports the figures were 59,254 tons in 1907 and 44,608 tons in 1908.

Compared with immediately preceding years, the output of work in the locomotive industry in 1908 showed a marked diminution. Among the principal customers were India and the Argentine Republic. Good orders were also placed by Peru, Chile, and Argentina. China bought little and Japan less. Owing chiefly, it is said, to artificially maintained high prices for iron, steel, and copper, Scotch locomotive works lost a good many orders to Continental and American builders.

Dull trade had a marked effect upon company promoting. No less than 71 fewer joint-stock companies were registered in Scotland last year than in 1907. The companies registered in 1908 numbered 265, with a total capital of £5,865,275 ($28,543,361), by far the smallest sum in any year during the last twelve, with the exception of 1901, when certain new restrictions in matters of registration caused a shrinkage. In 1907 the capital of companies registered was £10,963,167 ($53,352,252).

OIL AND COAL.

The mineral-oil trade prospered, notwithstanding the severe competition from Russia and the lower prices of American burning oil, gas oil, and paraffin wax. Burning oil has now become really a by-product with the Scotch makers. It does not provide more than 15 per cent of their income, which is derived principally from gas oil, paraffin wax, naphtha, and sulphate of ammonia. The total profits of the five Scotch companies engaged in mineral-oil production were, according to their last balance sheets, £394,843 ($1,921,503), about 30 per cent on their share capital.

Coal mining suffered much from the stagnation in all industrial trades, particularly in those which are large consumers of coal. There was a marked falling off in home consumption and prices. Steam coal was $3.12 per ton f. o. b. in January and $2.40 in December. Owing to the great depression in the iron and steel trades the fall in the price of dross was proportionately much greater, the decrease being from 40 to 50 per cent. It is noteworthy that while coal exports from east Scotland were reduced by more than 500,000 tons, the Clyde district showed an increase in its exported coal over the preceding year of fully 370,000 tons. This was chiefly due to the large volume of shipments to Genoa and other Mediterranean ports for important industrial enterprises. The total exports of coal and coke from the United Kingdom last year are estimated at 60,000,000 tons. To this trade Scotland's contribution was 14,831,467 tons.

IMPORTS OF CEREALS.

The imports of wheat and corn were considerably below the imports of 1907. The entire supply of hard spring wheat came from Canada. As in the previous year, however, the United States supplied the winter varieties, such as No. 2 red winter and hard Kansas. Argentina was again an important factor in the Scotch wheat market, ranking third, while Russian exports amounted to only a few thousand tons, and Australia sent still less.

Canada and the United States sent to the port of Leith 87,000 tons of wheat, as compared with 74,000 tons in 1907. The larger proportion of this wheat came from Canada. The feature in the corn trade was the absence of supplies from the United States, the bulk of the shipments in the early part of the year coming from Danubian and south Russian ports, and after April from Argentina. Several cargoes of corn from Argentina were received in a seriously damaged condition, the grain having heated badly during the long voyage. The imports of grain (in bushels) into Leith for 1908, as compared with 1907, were, in round numbers:

Year.	Wheat.	Barley.	Oats.	Maize.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
1908	4,136,000	3,640,000	1,608,000	2,208,000
1907	4,320,000	3,360,000	1,768,000	3,600,000

GERMANY.

EXTENT OF GOLD LEAF PRODUCTION, WAGES, AND SHIPMENTS ABROAD.

Responding to instructions, Vice-Consul Oscar Bock, of Nuremberg, submits the following report on the industry of making gold leaf in Germany:

This industry is carried on principally at Nuremberg, Furth, and Schwabach by several large concerns and many small ones. The total output is estimated by one of the leading concerns at 6,000 packets of 500 leaves each per week, the value of the annual product being probably about $1,500,000.

The cost of production per packet of 500 leaves, 3⅜ inches square, is said to be approximately 4.5 marks ($1.07). The wholesale price per packet of size stated was, in 1908, $4.35 to $4.40 f. o. b. New York, exclusive of duty. The retail price in small quantities is said to be 15 or 20 per cent more than the wholesale price.

One of the leading concerns in this trade furnishes the following wages per week as the usual rates in this industry under normal conditions: Experienced men, 35 to 50 marks ($8.33 to $11.90); helpers, 20 to 30 marks ($4.76 to $7.14); gold cutters (female), 10 to 16 marks ($2.38 to $3.81). Much of the labor is done by piecework, for which a scale of prices is agreed upon by employers and the gold beaters' union. Under the present scale the wages are approximately as stated.

About two-thirds of the output of gold leaf from this locality is said to go to England, the remaining one-third being consumed in Germany, United States, Canada, India, and other countries. The value of the declared export of this product from this district to the United States in 1908 was $39,648. [The total importations of gold leaf into the United States in the fiscal year 1908 amounted to 14,796 packs of 500 leaves, the value being $68,417. The importations the previous year were 35,849 packs worth $167,263. The rate of duty is $1.75 per pack.—B. of M.]

FORMOSA.

INTRODUCING A SOUTH CHINA SILKWORM—ARTISTIC BAMBOO WORK.

Consul Carl F. Deichman, of Tamsui, forwards the following report on the introduction of silk culture and other industries for developing the resources of the large bamboo forests of Formosa:

For some time the Formosan Government has been experimenting with a silkworm common in South China belonging to the "Polyphemus" family, and which produces a very strong silk. The central part of Formosa contains many maple trees upon the leaves of which this species thrives, and it was therefore decided to introduce and foster the industry here. Last autumn 800 cocoons were imported for the agricultural experiment station in Taihoku. The hatching was successful, and the larvæ will be distributed among the trees selected for these experiments. Great hopes are entertained for the success of this enterprise, by which a large number of people may find employment and an important article of commerce be added to the products of the colony. The Polyphemus is a large moth belonging to the silkworm family. Its larvæ, which is large, bright green, with silvery tubercles, and with white stripes on the sides, feeds on oak, chestnut, maple and other trees, and produces a large amount of strong silk. It is also known as "American silkworm."

ARTISTIC FURNITURE FROM BAMBOO.

The Government Agricultural Association of Kagi Prefecture in south central Formosa has recently engaged some teachers in Japan to instruct the natives of that prefecture in making more artistic bamboo work in order that the articles may become more suitable for export trade. Kagi Prefecture has an abundance of bamboo and at the present time the industry of making furniture and other articles of bamboo is of considerable importance locally, but the intention is to develop the industry by improving the workmanship and increasing the variety of articles manufactured in order to cater to a better and more diversified market, and at the same time increase the earning capacity of the families by making this a household industry. It is proposed to teach the women and children so that the work can be done in the homes much in the same way as fiber hats are made in Mexico, Central and South American countries, and the Philippine Islands. The bamboo is also to be used for paper-making.

CHILE.

INDUSTRIAL EXPANSION CREATES OPENING FOR MACHINERY.

In reporting that much more attention is being given to manufacturing in Chile than ever before, Consul Alfred A. Winslow, of Valparaiso, gives some details and suggestions:

During 1908 there were 2,829 shops and factories, employing each more than 4 persons, in the 16 leading provinces, aside from the Province of Valparaiso. These industrial centers gave employment to 51,353 persons, divided as follows: 32,795 men, 14,114 women, and 4,114 children. The capital invested amounted to $46,114,424 United States gold.

During 1908 the raw material consumed in these industrial plants amounted to $34,464,766, of which $25,682,864 was domestic and $8,781,902 was imported. The output of these factories for the same period was valued at $62,500,000, leaving $28,035,233 for profits, labor, capital, etc. During the same time 26,000 horsepower was employed, of which 10,600 horsepower was hydraulic. Much attention is being given to the development of water power, because of the high price of coal and other fuel.

There is a large opening here for manufacturing along most lines, since the customs duty on most articles, save machinery, ranges from 30 to 60 per cent. Labor is reasonably cheap and the market is good. It will also pay American manufacturers to keep in touch with these interests, for it means a market for much machinery in the near future. The best way to reach this trade is to send a good man into the field to study the conditions and learn just what is wanted. This will be more expensive, but will bring much better results, and put exporters in position to compete with their European competitors who already follow this plan.

TEXTILE INDUSTRY.

FRANCE.

MANUFACTURE OF ARTIFICIAL SILK AN IMPORTANT PROCESS.

The following report concerning the manufacture of artificial silk in France, and its relative merit as compared with silk manufactured from the so-called "natural fiber," is furnished by Consul John C. Covert, of Lyons:

The following information on the subject of artificial silk is a translation of a communication received from a prominent French manufacturer in answer to a number of interrogatories which I had submitted to him:

There are three varieties of artificial silk, to wit, Chardonnet, or nitrocellulose; Givet, or cuproammoniacal; and Xanthate cellulose, or viscose. There are five great mills and a number of smaller ones in France in which these three methods are employed. The smaller mills have not succeeded on account of the heavy expenses compared to the small product. The large mills are the Chardonnet, at Besançon, which produces from 1,763 to 2,204 pounds per day; the Givet process, at Givet, in the Vosges, which produces 1,763 pounds per day—this company has a smaller factory at Izieux, Loire, which turns out about 440 pounds per day of silk hair (crin)—and the viscose company, at Arques-la-Bataille (Seine-Inferieure), which produces 1,763 pounds per day, and which is expected in two months to have a capacity of 2,645 pounds—this company has another viscose mill at Vals, which produces 440 pounds per day and will soon turn out 771 pounds per day.

There is no important manufacture of artificial silk in the United States, although that country consumes about 882,000 pounds per year. Machinery enters very largely into the cost of the production of viscose, and as machinery is brought to a high state of perfection in the United States I can not see why the high rates of wages should prevent the successful manufacture of viscose in that country.

The Givet is an improvement on the Chardonnet process and the viscose is an improvement on the Givet. It may be roughly stated, considering the quantity of production, consumption, freight, and wear and tear of machinery, that the cost of production is $2.70 to $2.90 per kilo (2.2 pounds) for the Chardonnet, $2.30 to $2.50 for the Givet, and under $2 for viscose.

THE VISCOSE METHOD.

The viscose method embodies as far as appearance, quality, touch, and cheapness are concerned all the finest and best qualities. Instead of employing the expensive raw material, such as cotton, at 20 cents per 2.2 pounds, ordinary wood pulp is used at 5 cents per 2.2 pounds. Instead of using expensive dissolvents, such as alcohol or ether, ordinary water is sufficient.

You ask if we have succeeded in making an article which is not damaged by dampness or water. This talk about damages by water is a prejudice, for there is no tissue made where artificial material solely is employed, if we except the tresses and gallons, elastic tissues which are especially made at St. Chamond and Barmen, but these are combined with natural silk, cotton, or schappe. It is used more especially in the woof, and if a drop of water falls upon the thread in the skein it may diminish its tenacity or resistance, but this same water can not act upon the woven material.

The mixture of a number of textiles, as in Armure, thus makes a sort of a protected material and renders it physically impossible that the water should spread through to injure the material, since only a small part of it is exposed to contact with water, the rain, or the moisture of the atmosphere. Moreover, experience has demonstrated that this is a question of no importance, and it may be said that this is simply a prejudice. However, there is room for improvement here, and our chemists are perseveringly studying this question. They have already achieved some important results, and it is altogether probable that this prejudice concerning the effect of water will be removed in a few months.

This artificial silk is employed usually in the woof in goods manufactured for the Orient, where brilliant coloring is admired; it is also used for lining, for scarfs, skirts, mixed cottons, and for upholstery. It has even been employed in taffetas and in umbrella covers, which is a positive answer to the objection that it will not stand water. At present there is a demand in the United States for a sort of heavy tulle made of ovale of 500 deniers of artificial silk coming from France. This material will be fashionable next season, being used on dresses as a trimming over a foundation of satin or taffetas.

LARGE SHIPMENTS TO UNITED STATES.

The actual daily production of artificial silk amounts to about 44,000 pounds. About 30,000 hands are employed in the works manufacturing this material. It is exported chiefly to the United States and Germany, and it is reported that some is sent to Japan. This refers to the exportation of the thread and not the manufactured article.

I calculate that the total annual American consumption purchased from France, Germany, and Italy is about 882,000 pounds, but it may be half again as large, for this silk is employed in many kinds of textiles.

It must be borne in mind that in the present condition of science and industry we can not expect to have cheaper raw material than this wood paste.

I base my opinion of the future consumption on the fact that to-day the minimum consumption is from 39,700 to 44,100 pounds per day, and this at an average price of $3.28 to $4.25 per kilo (2.2 pounds), according to the quality. The result is that when producers are satisfied with a reasonable profit, or when the demand will not be far ahead of the production, the price will fall to $2.30 or $2.90. Artificial silk can be used in mixed goods in all the great markets for cotton in general and in all the textile markets. On the other hand, I do not think that, considering the present cost of living, there is any reason to expect a decline in the cost of silk. In short it must be admitted that some of the adverse criticisms uttered concerning artificial silk are absurd when we remember that it is the same process that the natural silk goes through, as carried on in our laboratories, where natural silk is charged, with metal, frequently 80 per cent, and even 200 per cent.

Other silk men of Lyon have expressed the opinion that the high wages ruling in the United States should not be an obstacle to the successful prosecution of the artificial silk industry in that country. This industry is comparatively new and developments may be expected in the work at any moment, as a number of chemists are engaged in trying to perfect the process.

For any other information on the subject I would advise correspondence with the gentleman who so kindly prepared the foregoing report. I think he could name people in Lyons who would like to embark in this industry in the United States in cooperation with Americans. [The gentleman's name and address are on file in the Bureau of Manufactures.]

AUSTRIA.

SALES OF COTTON TEXTILES DIMINISHED OVER ONE-THIRD LAST YEAR.

Consul Joseph I. Brittain, of Prague, sends the following report on the discouraging features of the Bohemian cotton industry:

The condition of the cotton industry, yarn and textile, in Bohemia at the close of 1908 presented a discouraging contrast when compared with conditions existing at the close of 1907. During the latter year yarn and textile mills were increasing their capacity, and orders for future delivery were abundant, being obtained without the producers offering special inducements as to terms or discounts. In fact, during the year 1907 many large orders could not be filled without the extension of time, and the export trade was especially good.

Now manufactured goods are accumulating, and sales are being made with great difficulty, especially in the export trade. During the first eleven months of 1908 the export trade amounted to

$7,917,000, while during the same period in 1907 it amounted to $12,443,900, showing a falling off of $4,526,900.

The present discouraging condition of the trade is ascribed to the conditions existing in the United States and England during the past year and to overproduction in Austria. During the boom period in Austria in 1906 and 1907 it is estimated that there was an increase in spindles amounting to 3,500,000. Unless conditions in Turkey improve many of the Bohemian mills will be compelled to work only part time. Especially is this true of the textile mills. During the past year the demand for colored textiles was a little better. Taking the situation as a whole, the manufacturers take a gloomy view of the future.

BRITISH INDIA.

COARSE WOOL OF MADRAS—BANGALORE MILL IN MYSORE.

Consul-General William H. Michael, of Calcutta, writes as follows in regard to woolgrowing and wool manufacturing in India:

The wool produced in Madras Province is described by an official report as coarse and inferior as compared with the wool produced in the northern part of India. It is suitable only for coarse fabrics. The best wool-producing sheep in the presidency is the Coimbatore, a white breed, which is also found in Trichinopoly and adjacent districts. A black breed found in Mysore State is also found in Madras Province, but does not do as well in the plains as in the hills of Mysore, the wool degenerating into straggling hair. The Madras and Nellore breed produces a compromise between wool and hair that is unfit for textile purposes. During the last three years Madras exported wool valued at $360,570, about half of which went to England and the other half to Bombay and other near-by ports.

There is not a single woolen mill in Madras Province, the nearest one being the Bangalore mill in Mysore State, which started in 1888, the capital of which is $600,000, and the government of Mysore owns some of the stock. This mill started with 26 looms and 780 spindles, and now has 43 looms and 1,140 spindles. The mill turns out horse blankets, lap robes, rugs, and coarse shawls, and employs 350 people.

GERMANY.

REPORTED COMBINATION OF DYESTUFF MANUFACTURERS.

Consul Frederick I. Bright forwards from Huddersfield the following extract from the Yorkshire Observer relating to a combination of dyestuff manufacturers in Germany:

> **A combination of all the large German chemical manufacturers making dyes has been arrived at with a view of checking the keen competition in the sale of sulphur blacks. The combination includes the Berlin, the Badische, Cassella, the Bayer, Meister Lucius and Bruning, the Basle Company, the Chemische Fabrik Griesheim Oehler, and probably other half-dozen smaller firms. This combination is of enormous importance and represents a capital of probably between twenty and thirty millions sterling ($100,000,000 and $150,000,000). It is designed, at present at any rate, simply as a combination for selling purposes. The great development of the trade in sulphur blacks has led to such keen competition between these firms that some such step was inevitable, unless the competition was to go on until it led to disaster. The result of this combination will inevitably be that prices, to some extent, will be raised, but it is scarcely likely that the increase in price will be so great as to throw the trade into other channels. At any rate the move will be jealously watched on this side.**

DOLL INDUSTRY OF GERMANY.

SCALE OF WAGES—TRADE DULL THE PAST YEAR.

Consul-General Frank Dillingham, of Coburg, furnishes the following information concerning the condition of the doll industry in his district of Saxony during the past year:

The exports of dolls and toys from Coburg to the United States during 1908 amounted to $1,920,965, as compared with $2,862,446 in 1907, a decrease of $941,481.

The present endeavors of the manufacturers here to put dolls dressed to represent different nations and customs on the various markets of the world, as drawing novelties, will not, it is thought, meet with any great success, yet it is quite likely that a few of these types, which are designed by well-known artists, are very artistic, and samples of them will doubtless attract much interest.

Prices of raw materials have declined, but this fact cuts no particular figure, because all orders taken last year have been filled with goods manufactured from material contracted for at the higher prices. For instance, mohair wool has declined from 20 to 25 per cent; cotton goods, 10 to 20 per cent; silk goods, about 5 per cent; and many other articles, such as lace and bands of cotton and silk, are lower. Fur animals have declined 10 per cent, also tin and metal animals. The prices of leather have fluctuated considerably during the year, being higher in the spring of 1908 than in 1907. At the beginning of 1909 they were somewhat higher than a year ago, and will doubtless remain so because of an increased demand for leather.

WAGES IN DOLL FACTORIES AND IN THE GLASS INDUSTRY.

The weekly wages in doll factories are as follows: Male minors, 95 cents to $1.45; male adults (over 16 years), $2.85 to $4.75; female minors, 85 cents to $1.55; female adults, $1.80 to $3.60.

These wages are paid to those who are employed by the day; but where they work by the job the wages are somewhat higher. Master workers, who are placed at the head of individual groups of employees in factories, and who are under a certain responsibility for quality and quantity, receive from $5.95 to $9.52 per week.

By a general agreement prices of glass tubes were raised by almost all the glass works on account of an increase in the price of coal.

The weekly wages paid in the glass industry are as follows: Male minors, $2.14 to $2.86; male adults, $5.70 to $8.60; female minors, $1.30 to $1.45; female adults, $1.85 to $2.15; marble makers, male adults, $6.85 to $7.15; tube blowers, $8.55 to $10.25; tube pullers, 16 to 21 years, $5.40 to $5.85.

TECHNICAL ARTICLES, FIGURES, TOYS, ETC.

Nothing favorable can be said about the export trade in the technical industry. Electro-technical articles were able to attain only moderate sales under the adverse conditions. German as well as foreign orders were missing. Under such conditions the forming of a combine of the majority of factories manufacturing electro-technical porcelain goods was not able to lead to any satisfactory results.

The weekly wages paid in the technical factories are as follows: Males up to 16 years, $2.15 to $2.85; males over 16 years, $3.60 to $4.05; males over 16 years, modelers, $7.15 to $7.85; female minors, $1.90 to $2.25; female adults, $2.90 to $3.55.

The scarcity of orders for figures, toys, and small novelties led to a reduction of the working hours, and, in a few instances, to the dismissal of employees. The decrease in the exports in this line was particularly noticed in the last half of the year. The prevailing weekly wages in factories manufacturing porcelain figures alone are as follows: Males up to 16 years, $1.85; males over 16 years, $4.30 to $5.70; female minors, $1.85; female adults, $2.45.

DOLLS' HEADS AND TABLE CHINA.

The dolls' heads industrial branch is so closely connected with the doll industry that the same business troubles which apply to one apply to the other. Besides the decreased sales of dressed or undressed dolls, the exports of dolls' heads have also decreased in proportion. In the manufacture of china doll heads coal is a prominent factor, and the price of that is 10 per cent higher than it was a year ago. Prices of heads, however, remain the same. The weekly wages paid in the dolls' head branch of the trade are as follows: Males up to 16 years, 9 to 12 marks ($2.14 to $2.86); males over 16 years, 15 to 18 marks ($3.57 to $4.82); females, minors, 6 to 9 marks ($1.43 to $2.14); females, adults, 9 to 12 marks ($2.14 to $2.86).

Reports from the table-china branch are, in the main, not favorable. Although the table-china factories have apparently been somewhat busier than other branches of the china industry, yet it is stated that profitable orders have shown a marked decrease, to which none of the larger markets proved an exception. In spite of the high prices of raw materials, manufacturers have had difficulty in maintaining the prices of the wares, because the customers, in many cases, sought to take advantage of the commercial depression by demanding special terms and lower prices. Wages have, however, remained the same.

The weekly wages in the table-china factories are as follows: Males up to 16 years, $1.45; males over 16 years, $4.15; marble workers (night), $5.45 to $5.70; female minors, $2; female adults, $2.30 to $2.60; marble grinders, females, job work, $2.60 to $2.85.

MASKS AND WOODEN WARE.

The business conditions which have so affected the house industry of the mountain districts of Thuringia do not, taking all things into account, seem to have influenced the mask trade very much. Exports to the United States, however, showed a heavy decrease, and factories have been running fewer hours.

In the wooden-ware industry (paint boxes, games, cash boxes, pencil boxes, etc.) the paucity of orders from the American market, which is one of the most important of all, has been felt. Fewer orders were also received from England and its colonies, France, Belgium, and the Netherlands, while German orders have been about the same. In several cases last summer, attempts were made to either reduce or countermand orders given at the beginning of the year, and the time for delivery was, in part, put off until toward the end of the year. In consequence thereof, for the first time in years, the supply of male and female hands exceeded the demand to a very marked degree. In this industrial branch, the average weekly wages paid are as follows: Males, minors, 8.80 marks ($2.09); adult males, 19.20 marks ($4.57); female minors, 7.70 marks ($1.83); female adults, 13 marks ($3.09).

CONDITIONS IN UNITED KINGDOM.

UNEMPLOYED LABOR AND WHOLESALE AND RETAIL PRICES.

From statistics published in the Board of Trade Labor Gazette, Consul-General Robert J. Wynne, of London, furnishes the following information concerning labor conditions and wholesale and retail prices in the United Kingdom:

At the end of the year 1908 employment was worse than at any corresponding period since 1892. The general decline which began during the second half of 1907 continued until the last two months of 1908, when there was a slight improvement. The prolonged disputes in the engineering and shipbuilding trades and in the cotton trade adversely affected employment at many establishments not directly concerned in the disputes.

Returns relating to over 600,000 members of trade unions show that the means of the percentages of members returned as unemployed at the end of each month of 1908 was 7.8 as compared with 3.7 in 1907. The highest mean percentages of the unemployed, at the end of each month, occurred in 1904 and 1905—6 and 7, respectively. Omitting these two years the mean percentage of unemployed from 1898 to 1907 (eight years) was 3.3. The mean of the monthly percentage for the metal, engineering, and shipbuilding group of trades was 12.6 in 1908.

WHOLESALE PRICES.

The general level of wholesale prices, as measured by the board of trade index number, which is based principally on import and export average values, showed a fall of 2.7 per cent in 1908 as compared with 1907, but, with this exception, it was higher than in any year since 1891. Compared with 1907, there was a more or less considerable decline in the price of 28 out of 45 articles, and an increase in the price of 16 articles. The average price of coal remained the same in both years. In the following details the increases and decreases are shown in percentages. Excluding articles of food and drink, the greatest proportionate decreases were in the prices of British wool 32.5, lead 29.4, copper 28, jute 26, tin 23.6. The price of raw cotton fell 8.4, and of imported wool 9.6, while rubber declined 10.3 and pig iron 14.5. The price of British wool showed a great decline from the high prices of the years 1904–1907, but it is still considerably higher than the prices in 1901 and 1902, which were the lowest recorded. The principal articles showing an increase in price were cotton seed, 4.5, and bricks, 2.1.

On an average, wholesale prices of food and drink (including tobacco) showed a rise of 1.5, following on a rise of 4.6 in 1907. Eleven of 23 articles showed a decline, the most considerable decline being in the price of hops, 27.6. Cocoa declined 11.9 and bacon 7.9. As regards cereals, there was a rise of 4.7 in the price of British wheat, and of 9.2 in the price of imported wheat, and there were slighter rises in the prices of British oats and imported barley. Corn rose over 12. The price of British oats declined nearly 6, foreign oats nearly 10, and rice 7.2. Among the other articles of food and drink which increased considerably in price were coffee 20.3, rum 19.8, sugar 7, and tobacco 5.7. Beef rose 1.8, while mutton fell 4.1.

RETAIL FOOD PRICES.

The general level of retail prices of food showed an increase of nearly 2½ per cent as compared with 1907, over 5 compared with 1906, and 8.4 compared with 1900.

As compared with 1907 the principal articles which advanced in price were oatmeal 12.4, cocoa 10.6, bread 7.8, flour 6.2, beef 6.7, butter 5.5, potatoes 4.6, and mutton 0.2. The most important articles which declined in price were bacon, pork, and cheese, which decreased 5.7, 2.7, and 2.9, respectively. Eggs, sugar, and rice also showed some decline.

According to the particulars obtained monthly as to the price of bread in London and 27 of the principal towns of the United Kingdom there was an average rise of 8 per cent in 1908 as compared with 1907. There has, however, been some decline from the high prices which obtained in the beginning of 1908, and in none of the 28 towns was the price of bread at the end of December higher than a year ago.

GERMANY MANUFACTURING GALALITH.

SUBSTANCE IS USED FOR MAKING MANY USEFUL ARTICLES.

Consul-General Robert R. Skinner, of Hamburg, sends the following report on the production of galalith in that German city, concerning which previous articles have appeared in Consular and Trade Reports:

Since 1902 a new and flourishing industry has been created in Hamburg for the conversion of milk into a hard, bony material resembling ivory, tortoise shell, and celluloid, and known in commerce as "galalith." Exports of this material to the United States were as follows: Value of the raw material, $11,516 in 1907 and $13,620 in 1908; value of manufactured articles, $5,147 in 1907 and $1,670 in 1908. Exports to the United States fell off in 1908 in sympathy with general business conditions, but otherwise the trade tends to develop in a satisfactory manner, thus establishing a new consuming market in Germany for an agricultural product.

The inventors of the process have succeeded in obtaining an article which does not readily burn like celluloid, which is odorless, and which takes a high polish and any color desired. It is converted into toilet articles, buttons, dominos, dice, chess figures, piano keys, electrical fixtures, etc. The Hamburg manufacturers, as a rule, sell only the raw material, called galalith, which is afterwards worked up by other manufacturers, who treat it just about as they would horn or celluloid.

HOW SUPPLIES ARE SECURED, CAPITAL NECESSARY, ETC.

While the perfected process of conversion can not be described, it is known that it consists in hardening casein which must be produced from fresh, skim milk, as distinguished from commercial casein used in the manufacture of paper, glue, and color. The German concern finds its best casein in France, where the butter industry is carried on upon a large scale. It contracts with butter makers for their skim milk, which now costs about 30 cents per 220 pounds, and returns the whey to the butter makers. The skim milk is coagulated with rennet, and the curds after being pressed until they contain about 50 per cent of water, are shipped to Germany for the finishing process, by which they are made into blocks and tubes. It requires about 3,000 liters (liter=1.0567 quarts) of skim milk to make 220 pounds of dry casein, and this quantity of casein is worth about $15.50.

To set up a plant large enough to make 1 ton of finished galalith per day, excluding cost of land, building, and boilers, but including sufficient working capital, stock, and special machinery, would require about $300,000. In Hamburg the only factory now in operation employs 200 operatives, and turns out about 800 tons of galalith per year.

ENGRAVING IN SCOTLAND.

NO PROCESS IN USE FOR THE RECOVERY OF SURPLUS INK.

In reply to an inquiry from a firm of chemists in Baltimore, Consul J. N. McCunn, of Glasgow, furnishes the following information concerning bank note and other engraving in Scotland:

The Scottish banks issue bank notes of the following denominations: £1, £5, £10, £20, £50, and £100, but the smaller denominations of these, unlike the notes issued by the Bank of England, remain in circulation a very long time, being taken in and given out by the banks in the same way as coin. The Scottish banks are only allowed to issue notes to the amount of the gold reserve they hold, and consequently the notes are kept in circulation until practically worn out. Only two Glasgow banks engrave their own notes, the others being made in London. The colors used are blue, yellow, green, black, and red, and the quantity, approximately, in the same respective order.

There is also a certain amount of map engraving, picture work and calico printing engraving, though this latter is gradually being concentrated in Manchester. A considerable amount of lithographic engraving and die stamping work is done here, but in these cases the copper plates are chiefly used for transfers for the stones. A list of the principal engraving firms in Glasgow is forwarded [on file in the Bureau of Manufactures]. There are also several large engraving firms in Edinburg.

LABOR WORLD.

CONDITIONS AMONG WORKERS.

UNITED KINGDOM.

THE PAST YEAR ONE OF INDUSTRIAL CONFLICTS.

The following report reviewing the labor conditions in the United Kingdom in 1908 is furnished by Consul Joseph G. Stephens, of Plymouth:

Trade disputes involving more industries and larger numbers of men have occurred in 1908 than in any year for a decade. The financial crisis in the United States in the late autumn of 1907 was followed by a widespread trade depression, which affected the United Kingdom and the continent of Europe. With the fall in values came lessened production, a smaller demand for labor, and a reduction of wages.

The principal labor disputes of the year have been caused by the resistance of men to the enforcement of wage reductions, but the stoppages, coming on a falling market and at the time when large stocks were on hand, ended disastrously for the men. From January 1 to November 30 there have occurred 367 trade disputes, in which 297,854 workmen were involved, with an aggregate loss of 10,506,600 working-days. In the same period of 1907 there were 508 disputes, involving 137,142 work people and an aggregate loss of 1,978,100 working-days. Consequently, the number of men affected has been doubled and the loss of working-days has gone up by more than 500 per cent. The loss in wages alone is calculated to amount to $15,000,000. The funds of the trades' federation and the trades' unions concerned have been depleted, and after the loss and suffering entailed by a stoppage, the reductions have had to be accepted.

The injury to trade and the loss and suffering involved by the labor disputes which have occurred during the year have caused the board of trade to form a court of arbitration for the consideration and, it is hoped, averting of labor disputes. The services of the most distinguished public men, captains of industry, and most sagacious labor leaders have been enlisted. These men will doubtless command public confidence and respect. There is much to be hoped from the development of arbitration courts and conciliation boards in removing causes of difference and averting labor disputes.

THE SHIPBUILDING AND COTTON-MILL STRIKES.

The most prolonged and serious dispute of the year has been in the shipbuilding and engineering trades of the northeast coast. For seven months this dispute was continued, causing dislocation of trade and serious loss in wages to the men. The men returned to work on September 24, accepting the reduction of wages with the understanding that no further alteration in wages take place for six months from the resumption of work. The loss in trade and wages by the dispute must have run up to several million pounds sterling.

The dispute in the cotton trade was of shorter duration, but it directly involved a much larger number of work people. The boom in cotton has been responsible for a good deal of mill building and increase of production, with the inevitable result of large stocks accumulated on a falling market. The Master Cotton Spinners' Association on July 24 decided to ask for a reduction of 5 per cent in wages. It was decided, after some negotiations, to postpone the reduction until the new year. To this the spinners agreed, but their decision was rendered valueless by the refusal to accept on the part of the card-room operatives. On September 21 the federated employers closed their mills, and about 120,000 operatives were rendered idle, besides the injurious effect exercised on other industries. The stoppage continued until November 9, a period of seven weeks, when an agreement was signed for the operatives to resume work. The agreement provides for a 5 per cent reduction of wages, to come into effect on the first day in March. The only result which the operatives obtained for the seven weeks' stoppage and the loss of $5,000,000 in wages was the delaying of the 5 per cent reduction in wages from the first day of January to the first day of March. The employers received very substantial compensation for the delay in the reduction of wages in the clearing of stocks and the placing of the trade on a better basis to meet any improvement in the demand.

MINERS' WAGES AND THEIR EIGHT-HOUR DAY.

The miners have continued to receive high wages throughout the year, though there has been a drop from the boom prices of 1907. In the federated districts in England the coal owners gave notice of a reduction of 5 per cent in wages in July, which was resisted by the men, but on the application going before Lord James, on September 3, he gave his casting vote for the reduction asked for by the coal owners. The Scottish miners have suffered a reduction of 12½ per cent, and Northumberland and Durham have also had reductions. In the English federated districts wages are now 55 per cent above the standard wage and within 5 per cent of the maximum, in Durham 44½ per cent above the standard, and in Northumberland 41¼ per cent above the standard. In the closing days of the autumn session of Parliament the mines eight-hour bill was passed into law. The agitation on the part of the miners has been for an eight-hour day from bank to bank. The bill legalizes an eight-hour working day, or, counting the two windings, nearly nine hours from bank to bank. The new act, when it comes into law in Northumberland and Durham in January, 1910, and in other mining districts in July, 1909, will make a considerable change in the working conditions of the industry.

Toward the close of the year a small improvement in trade has set in, with a slight decrease in unemployment. In November the returns from trade unions with 644,770 members, showed that 9.1 per cent were unemployed, as compared with 9.5 per cent in October. It is hoped that these favorable indications of improvement will be confirmed with the new year.

BRITISH LABOR TREATY.

SHIPBUILDING AGREEMENT WHICH REDUCES LIKELIHOOD OF STRIKES.

Following are extracts from an article published in the London Times relative to an agreement between employers and laborers concerned in British shipbuilding:

> A provisional agreement has been entered into between the Shipbuilding Employers' Federation and 26 trades unions for the prevention of strikes by the settlement of disputes in conferences in which all employers and all the trades unions shall be represented. This agreement is the most advanced step in the interests of industrial peace and economic industry in the history of labor. The federation and the unions recognize that it is in the interests of both sides that arrangements should be made whereby disputes may be fully discussed and settled without stoppages of work. No strike or lockout shall be declared until every means of conciliation shall have been exhausted in joint conferences.
>
> When the joint conference, which embodies the authority of the Employers' Federation on one side and the whole of the 26 unions on the other, decides a question it is not likely that either side will disregard the verdict.
>
> On the men's side the whole interest of the 26 unions will be opposed to a strike which would throw them all into idleness, while any employer who determines to reject the decision of this conference would find himself at war with the power of all the 26 unions in concert.
>
> Neither side is to ask for a change in the scale of wages at shorter periods than six months. Even before a demand may be made for a change in wages there must be a conference on the subject between the employers and the unions.
>
> The agreement is to continue in force for three years, and shall thereafter be subject to six months' notice on either side.

THE NETHERLANDS.

A NEW CONTRACT LAW TO REPLACE THE OLD CIVIL CODE.

Consul-General Soren Listoe, of Rotterdam, furnishes the following review of the new law governing labor contracts in the Netherlands which went into effect on February 1, 1909:

In the civil code of the Netherlands only three paragraphs referred to "the hiring of servants and workingmen," but as that law was enacted prior to the year 1838 it is not surprising that its stipulations were considered too one-sided under the present conditions of labor and living; hence a new law was presented and received the sanction of both Chambers of the States-General.

The contract or agreement between employer and employee or laborer may be made verbally as well as in writing; in the latter case all costs and charges in connection therewith are for account of the work-giver (employer), who is supposed to be financially the stronger party.

All contracts, and even receipts for wages, are exempted from "stamp tax." If agreement to deviate from the requirements of the law should be made, which is in some instances allowed, it is essential that a written contract be made.

RIGHTS OF MARRIED WOMEN AND MINORS.

A married woman, who is still considered as a minor in Dutch judicature, is specially permitted to accept a position, sign the labor contract, and collect the wages, without the consent of the husband; but when she contracts, as an employer, for the services of household servants, she is supposed to have first obtained the required permission of her husband.

Thus far the Dutch husband has had the sole right to dispose of the income of his wife, unless it was distinctly agreed by contract made before the marriage that such should not be the case, but this general rule has, by the new law, been revoked as far as the income of the wife as "laborer" is concerned. In order to prevent the husband from lawfully claiming the earnings of his wife and spending them in any manner he sees fit, this law provides that the married woman is entitled to "the disposal, in the interest of the household," of all moneys which she earns or which is due to her under an existing labor contract.

A minor can only contract for labor with the permission of his father or guardian, which permission is considered as given when the lawful representative has not raised any objection within four weeks after the contract has gone into effect.

In everything connected with the labor agreement the minor has the same rights as if he were of age, with two exceptions: (1) He can not begin legal proceedings unless assisted by his lawful representative, and (2) as to the collection of his wages he is still a minor. The written contract may contain a stipulation that his wages are wholly or partly payable to his lawful representative, and even if a written contract does not exist this payment will have to be made to his lawful representative if the latter insists upon it in writing. To avoid all possible complications in regard to the work-giver refusing to pay the minor his wages or the father or guardian claiming his wages, the law provides that the work-giver is fully discharged of all obligations by making payment to the minor unless the lawful representative has forbidden by contract or in writing that such payments should be made to such minor.

If the work-giver be a minor he will not be allowed to make an agreement or contract unless he has been declared of age in all forms of law.

REGULATIONS—PAYMENT OF WAGES.

Regulations made up by the work-giver (employer) are only binding on the workmen in the following instances: (1) A complete copy of the rules must be handed to the laborer; (2) a copy must be filed, for the information of the public, with the justice of peace in the district where the working place in question is located, and (3) a copy must be posted for reference in the factory or workroom.

Wages must be paid to the workmen in person unless a written authority exists by which somebody else is authorized to collect the same. The wages must, as a rule, be paid in currency. Products of the business may only to a small extent take the place of cash money in payment of wages. Thus, if previously agreed upon, a baker, for instance, is allowed to give his help one loaf of bread per day in part payment of his wages. House servants, waiters, seamstresses, who are in the domestic circle of the employer, are partly paid by the boarding and lodging which they receive. But, as a fundamental principle, it has been laid down in the law that payment or part payment in the shape of groceries and other necessities of life are illegal and void. This restriction has been made with a view of putting a stop to the practice of forcing upon workmen the obligation of buying in certain stores kept by the employer or his protégés and drawing their wages in the necessaries of life for themselves and families, which, in many instances, has been the cause of defraudation on the part of the employers and of great dissatisfaction among the working people.

The new law provides that the amount of wages which, owing to the ignorance or economical weakness of the workman, is not paid in cash may again be claimed, and must then be paid a second time by the employer. Payment of wages must be made at the end of the agreed period; thus week laborers must be paid at the end of every week.

In case the payment does not take place in time the work man or woman can claim after the third day 5 per cent additional for five days and 1 per cent for every further day to which the payment is deferred, but it must never exceed 50 per cent of the week's wages. Sunday labor must not be exacted unless it is specially agreed upon by written contract.

SICK FUNDS AND SICK TREATMENT.

Funds are permitted to be established for the purpose of payments to the working people in case of illness, infirmity, death, etc., and the contribution of the employee may be deducted from his wages, but the interested workmen must be represented in the management of such funds and the moneys must be kept entirely separate from the business and personal possessions of the employer. The rules and regulations of such funds are binding as soon as they are signed by the representative managers and filed with the justice of peace of the district.

A copy of the rules and regulations must also be kept plainly visible in the factory or workshop.

All employees who are boarding with their employers are entitled to medical treatment for at least six weeks, unless he or she on their own accord should prefer to be nursed and treated elsewhere.

The employer, however, is not obliged to have the employee treated in his (the employer's) house; the law insists upon "proper treatment," and when the employee is sent to a hospital for account of the employer the requirements of the law are fully met.

IMPOSING FINES—EXCEPTIONS TO LAW.

Fines will only be exacted under the following conditions: (1) Where they have been agreed upon in the labor contract and the amount of the fines therein stated; (2) the contract must be in writing and the employer and employee must both have signed it; (3) the disposition to be made of the fines must be clearly stated; (4) the employer is obliged to give a written statement showing the amount of fine and the reason for its deduction. The amount of fines is not to exceed one day's wages out of one week's pay.

The requirements of the law must be observed by all employers and employees, with the exception of shipowners and captains and crews of seagoing vessels. Employees and workmen whose income amounts to $480 per year are considered more or less financially independent, and for such some paragraphs of the law which are strictly binding for workmen earning less wages may be deviated from or set aside.

[Details governing the discharge of workmen and workers quitting their employment are on file in the Bureau of Manufactures.]

AMERICANS IN ARGENTINA.

THEIR IMMIGRATION INTO THE REPUBLIC CORDIALLY INVITED.

Chargé d'Affaires Charles S. Wilson, of the American legation at Buenos Aires, furnishes the following translation of an article from La Prensa, of that city, in regard to the proposed emigration of Americans to the Argentine Republic and the measures which should be taken by the Argentine Government to encourage such a desirable class of immigrants:

Some North American industrialists, mostly agriculturists, have applied to the Argentine consul-general in New York for information in regard to the quality of our land, climate, and means of transportation to this country, expressing their desire to emigrate to this Republic in order to procure economic betterment.

This news should be pleasing to our national sentiment, not only on account of the deserved fame for industry which is enjoyed by the sons of the United States, educated in a political and economic school whose severe principles are shown by the enormous progress of that country in all the manifestations of civilization, but also because the current of North American immigration will strengthen the bonds of affection which unite the two American families of the north and south of the continent, bonds as old as the life of the Argentine nation, which was born to a world of liberty from the breast of North American institutions.

Such an immigration to this country, where the model republic of the north has been and is looked upon with the affection and admiration which it deserves, should be received by our people with natural and legitimate esteem, penetrated as it is by the advantages of capital and labor which will be brought to the country by the North American workman, whose enterprising spirit is higher than that usually found in human society.

It will be a rich immigration, we may say, given the characteristic situation of those citizens with economic resources of their own, whatever it may be in quantity, since one can scarcely conceive of a son of that nation, where so great ingenuity and activity are exercised to better their life, who will not have a small capital, the fruit of their own efforts.

SUGGESTED PLAN FOR INDUCING SETTLERS.

This labor and this capital employed here with the skill which may be expected of them, here where every activity gathers the richest fruit, will be, in future, the best propaganda for our country among the industrious laborers of North America. Nevertheless, it is necessary, in view of the disposition manifested by these industrialists to the Argentine consul in New York in regard to their desires to know the conditions of our lands, the climate, social conditions, security enjoyed here by foreigners, and other equally necessary details, that our representative in that capital should realize this, and exhibit the statistical data of our rapid economic progress, the most efficacious and sure propaganda formulated by these data.

For this purpose the National Government should proceed directly to charge some office, through the proper ministry, with the collection of the most important statistical data to inform future emigrants abroad as to what they may wish to know in regard to the national economy. This data, which could be published weekly, because the enormous current of immigration from all parts of the world demands it, should be sent to our consuls abroad, and would give much better service than has been given by the information bureaus, which the country supports abroad and which are so costly and generally useless.

It is to be hoped, in the meanwhile, that the Government will not lose sight of the wishes manifested by the North American industrialists, and that it should do everything possible to bring to this country such industrious immigrants, furnishing them in every possible way with the information they desire, because the knowledge of the economic conditions of this country will decide the coming of these agriculturists. Nothing more is necessary. They, on their side, convinced later how labor pays in this country, will be the best propagandists to their countrymen. In time will be repeated the phenomenon, so pleasing to this country, offered by the immigrants of the other nations of the world, who have been converted to just propagandists of the Argentine economic energies.

LAWS AND ECONOMICS.

FOREIGN LAND LAWS.

COLOMBIA.

REGULATIONS FOR DISPOSING OF THE PUBLIC DOMAIN.

Consul Isaac S. Manning writes from Cartagena that the minister of public works of Colombia issued a decree under date of November 20, 1908, providing for the establishment of the department of public lands, and also the manner of securing government lands for agriculture and colonization. Following is his report:

As many inquiries have been received at the American consulate in Cartagena asking information regarding the acquisition of public land in Colombia, the most important features of the new regulation are here transcribed. The minister of public works may grant dominion in public lands and national forests as follows:

METHODS OF ACQUIRING LANDS.

ART. 2. (1) By adjudication to agriculturists; (2) by cession to promotors for enterprises of an industrial character or of public utility; (3) for the foundation of new cities, or to the citizens of towns already established; (4) in exchange for territorial bonds or titles of concession; (5) with title of sale for cash.

ART. 3. Proceedings for the transmission of dominion in public lands under the first four clauses will be in conformance with the respective laws and decrees governing the matter. The sale for cash will be subject to the following rules: (1) The maximum amount of land which can be sold to one person for cash is 5,000 hectares (hectare=2.471 acres); (2) the sales for cash will be made by the minister of public works at public auction, which must be approved by him and by the President of the Republic, after hearing same in the council of ministers.

PROCEDURE FOR PURCHASING LANDS.

ART. 4. Those desiring to acquire public lands for cash will direct an application to the minister of public works, describing the location, area, and boundaries; also the improvements of any character, with an indication of the owners thereof, their intrinsic condition, and the amount offered by the would-be purchaser therefor. With this application should be presented proof that the land is public land, and in possession of the nation; that it does not contain petroleum wells, asphalt, deposits of salt, breeding places and habitat of the heron, guano deposits, nor medicinal waters. It must also be accompanied by a map approved by the official engineers.

ART. 5. The minister, if he considers it advisable, shall direct the local authority or special commissioners to make an ocular inspection of the lands at the expense of the applicant as to the fitness of the land for agriculture or grazing, or for the establishment of colonies or towns.

ART. 7. According to the result of the inspection and after thirty days of publication of the notice referred to, the minister will decide whether he will decree the sale or not.

LAND APPRAISED, MINIMUM OFFER, DEPOSIT, ETC.

ART. 8. When lands have been surveyed for the Government and maps are made thereof, the Government having resolved to offer them for sale, they will be appraised in lots, and this appraised value will serve as a basis for the offer for their purchase. The intending purchaser shall satisfy himself of the true amount in the lot before purchasing; the Government not responding for errors in measurement. The minister will provide for the publication of the maps and data respecting the geographical location of the lands and of their fitness for agriculture, and thirty days after the publication thereof he will fix the day for their sale at public auction.

ART. 9. In all sales of land for cash, preference shall be given those who may already have considerable improvements thereon.

ART. 10. In the sale of lands for cultivation, the lowest amount that may be offered is $5 gold per hectare, and for lands suitable for grazing, 50 cents per hectare.

ART. 12. Before making an offer for lands at public sale, the would-be purchaser must deposit 10 per cent of the value of the land, which amount will be forfeited in case of failure to pay the remainder within twenty-four hours after the adjudication of the sale.

ART. 14. If the purchaser at the sale shall be other than the applicant for the lands, he shall pay in cash the expenses the applicant incurred before the sale.

ART. 21. Persons acquiring lands by purchase shall be required to fence or otherwise mark the boundary lines within a year from securing possession thereof.

JAPAN.

METHOD OF PROCEDURE IN CONDEMNING LAND FOR PUBLIC PURPOSES.

Ambassador Thomas J. O'Brien, of Tokyo, forwards the following translation from the Japanese, by student interpreter Edwin L. Neville, in which is described the simple method of condemning land for public and military purposes in Japan:

Land in Japan may be condemned for military purposes, public works, railways, tramways, or for any public purpose decided upon by the imperial or local governments. In all cases except condemnation for military purposes the project must bear the approval of the imperial cabinet.

After approval by the cabinet, public notice of the condemnation is given by the imperial government and by the governor of the prefecture in which the condemned site is situated, giving a description of the premises and the purpose for which they are to be condemned. Special private notice is also given to the owner and interested parties by the governor, and an opportunity for private negotiation is allowed. If a private settlement can not be reached, the case is brought before a committee composed of the governor of the prefecture (chairman), three higher civilian officials, and three members of the honorary prefectural council. This committee has power to decide upon the boundaries of the site, the compensation therefor, and the time and terms of evacuation and possession.

APPEAL—TAKING LAND FOR MILITARY PURPOSES—BRIBERY, ETC.

Appeal may be had to the home minister, who has general supervisory control over all condemnation proceedings. In cases where a claim of illegality of procedure or jeopardizing of rights is made, the cause may be brought before the administrative court. Claims for compensation different from that awarded by the committee may be brought before the justice court.

The procedure in condemning land for military purposes is much simpler. The minister for war notifies the governor of the prefecture that a certain site is to be condemned, and the governor in turn notifies the owner and interested parties. The compensation, extent of the site, and time of evacuation and possession are all decided by the minister for war.

In case a condemned site becomes unnecessary for the purpose for which it was condemned, it may, if a period of twenty years has not elapsed, be repurchased by the former owner or his heirs at the condemnation price. Bribery in connection with condemnation proceedings is punishable by fine and imprisonment of all parties concerned.

The government by its officials is liberally represented on the committee before which condemnation proceedings are brought. The governor of the prefecture, who acts as chairman of the committee, receives his appointment as governor from the Emperor. Higher civilian officials also are prefectural officers appointed by the imperial government. The representatives on the committee from the honorary prefectural council are elected by popular vote, and are members of the governor's council.

INTERNATIONAL EXPOSITIONS.

BELGIUM.

THE BRUSSELS INTERNATIONAL UNIVERSAL EXPOSITION.

Consul-General Ethelbert Watts, in furnishing the following information concerning the World's Exposition to be held in Brussels in 1910, reports that more foreign participation has been secured than for any former Belgian exposition:

The exhibition grounds are situated on the southeastern end of the beautiful Bois de la Cambre about 12 or 15 minutes in the tram car from the center of the city, and there will be 5 or 6 lines of cars running thereto. The grounds occupy 198 acres, and are directly reached by a new extension of the Avenue Louise, than which there is not probably a more beautiful avenue in Europe.

Space has been secured by the following countries, the extent of space being given in square feet: Belgium, without counting the different pavilions for the city of Brussels, for horticulture, for the lace industry, for the city of Antwerp, for the city of Ghent, and the grand "Salle des Fêtes," which will be capable of seating 6,000 persons, 656,620; Germany, 328,310; United Kingdom, including 10,000 for its colonies, 314,429; Italy, including a pavilion, 129,182; Netherlands, including a two-story pavilion, 75,350. The following countries will be represented by pavilions, space being also in square feet: Canada, 22,605; China, 18,299; Denmark, 16,146; Spain, 26,911; Portugal, 32,831; Guatemala, 4,306; Turkey, 4,306; Uruguay, 5,490; Persia, 10,980. The following countries have announced their intention to participate, but have not yet been assigned space: Haiti, Ecuador, and the Dominican Republic.

It is expected that the United States, Austria-Hungary, Sweden, and Norway will participate, but as yet official notice of the same has not yet been received. The last Belgian international exhibition, held at Liege, granted space to exhibitors amounting to 1,001,076 square feet. The Brussels exhibition of 1910 has already granted or given option on space amounting to 1,829,926 square feet.

The progress of the grounds, gardens, buildings, etc., have advanced satisfactorily, and Machinery Hall, it is said, will be ready by the middle of this year, thus enabling manufacturers to build foundations for the machines and have all ready some time before the opening of the exhibition.

GERMANY.

EXHIBITS WILL ADVERTISE PLACES OF INTEREST TO TOURISTS.

An international exposition will be held in Berlin, beginning March 18, and closing May 15, 1911. The exhibits will represent means of traffic and travel by land and sea, the equipment of conveyances and lodging places for the convenience of the traveling public. The exposition management permits any city to install an exhibit demonstrating the methods of lodging, instructing, and entertaining foreign visitors. One of the aims of the management will be to attract the attention of foreigners to the various places of interest in Germany.

The scope of the exposition is indicated by the following divisions under which exhibits will be grouped: (1) Railways, sleeping cars, special trains, dining cars, steamships, and equipments; (2) tourist agencies; (3) societies for the improvement of travel, tourist clubs; (4) summer resorts, baths, and places of recreation; (5) lodgings and maintenance; (6) guides and tourist literature; (7) industries connected with travel, including cars, autos, boats, airships, bicycles, motor bicycles, and saddlery; (8) traveling equipments, comprising utensils, luggage, traveling apparel, outfits, photographic, optical, and similar apparatus; (9) expeditions and discoveries; (10) cinematographic reproductions and lectures. Copies of the rules governing exhibits may be had from the Bureau of Manufactures in English, French, or German.

NORWAY.

TOURIST AND DOMESTIC INDUSTRY EXPOSITION AT BERGEN.

Vice-Consul John A. Merkle, of Bergen, writes that an exposition will be held by the Norwegian County of Bergen from June 1 to September 15, 1910, in that city. The exhibition will be devoted to tourist and domestic industry exhibits. Foreign firms that make a business of furnishing hotels, foreign steamship companies interested in Norway's tourist traffic, and firms carrying sporting goods may, under certain conditions, exhibit goods through local representatives. A translation of the rules and regulations governing exhibits, exhibitors, awards, etc., may be seen at the Bureau of Manufactures.

RUSSIA.

INTERNATIONAL EXPOSITION AT KAZAN.

Consul-General Hunter Sharp, of Moscow, reports that an International Exposition will be held at Kazan, Russia, during the months of June, July, and August, 1909, under the supervision of the Kazan Government Zemstvo, to whom applications should be addressed. Foreign exhibits will be received up to July 15, 1909. The exhibit will be classed as follows: Home industries, agriculture, stock and poultry raising, dairy products, agriculture and other machinery, fireproof materials, fire engines and apparatus, and general manufacturing industries.

Further information concerning this exposition is covered by the rules and regulations in the German language, a copy of which may be seen at the Bureau of Manufactures.

MEXICO.

CELEBRATION OF THE COUNTRY'S CENTENNIAL.

Responding to a New Jersey letter requesting information relative to the coming celebration of the centennial of Mexican independence, Consul Clarence A. Miller writes from Matamoros:

The people as a whole are even now taking an interest in the coming celebration. In this city collection boxes are posted in various public places for the gathering of voluntary contributions. One or two entertainments have also been given to raise money for the same purpose.

As near as I can learn the actual celebration will take place on September 14, 15, and 16, 1910. Some of the larger cities will probably have two or three weeks devoted to the "fiestas," but in this matter each town will probably make its own plans.

Novelties should find a ready market from this time on, especially if decorated with the Mexican colors. Considerable interest might be created in them during the May "fiesta" of this year (from about May 1 to 20); also during the September celebration of this year (from about September 1 to 20). There should also be a ready sale for these articles from the May "fiesta" of next year until the culmination of the celebration on September 16, 1910.

The best manner of introducing these novelties might be to establish agencies in Monterey and Mexico City and work the other towns and cities with good, reliable Mexican salesmen.

PANAMA.

PRELIMINARY PLANS FOR A WORLD'S FAIR ON ISTHMUS.

Consul-General Arnold Shanklin sends the information that much interest is being taken in the Republic of Panama in the proposed world's fair to be held at the city of Panama in 1915, concerning which he says:

The present active officers of the proposed fair are Mr. A. Bienkowski, president, and Mr. E. C. McFarland, secretary, who report that a number of prominent men have permitted their names to be used on the printed matter as honorary presidents and vice-presidents. Several meeting have been held and one of the wealthy landowners of the Republic has given a beautiful site of 300 acres in the Sabanas.

CONCESSIONS IN HAITI.

MANY FRANCHISES ARE GRANTED, BUT FEW ARE DEVELOPED.

Consul John B. Terres, of Port-au-Prince, in the following report speaks of the concessions granted in Haiti, of the resources of the country, and the need of foreign capital to advance the work already started:

The Plain-Cul-de-Sac Railroad Company has four concessions that hold out promises of reward if the grants can be properly developed. The first of these is a fifty-year franchise for street tramways in the city of Port-au-Prince. On this concession 6½ miles of track have been put down and cars are run on a fifteen-minute schedule. The line is well patronized and will develop into a remunerative enterprise. Up to the present the depreciation of the local currency has prevented the line from being a large dividend earner. With the restoration of the country's currency upon a stable basis this franchise will become a valuable property. The material for the equipment and maintenance of this tramway is purchased in the United States.

The second concession is for a railroad extending northward from Port-au-Prince through the plains of the Cul-de-Sac to the lakes, a distance of 27 miles. This line has been completed and is in operation, with every promise of becoming a valuable property to its owners as well as a great stimulus to the development of the region through which it passes. A plan is on foot to rebuild the large reservoir in the plain, which in former years irrigated that entire section during the dry season. With the reestablishment of irrigation agriculture will regain its former productiveness and then the railroad will be taxed to its utmost to carry the freight to the city.

FOREIGN CAPITAL IS SOUGHT.

The third concession is also for a railroad which is to be built from Port-au-Prince to Leogane, a distance of 22 miles through one of the richest agricultural sections of the island. About one-third of this line has been completed. Good returns are confidently looked for as soon as the line is put into operation. The other concession held by this company is for a copper mine which shows signs of large deposits of a high-grade ore. The company is also developing a manganese mine located on its concession.

The Plain-Cul-de-Sac Company is composed of five or six members, two of whom are Americans, and a considerable part of the sums invested in these various enterprises is American capital. The company has a representative house in New York, where the president, an American, is now endeavoring to effect a reorganization of the company on a stronger financial basis for the purpose of more fully exploiting these properties.

Concessions have been granted (1) for a railroad from Port-au-Prince to Petionville, a summer resort about 10 miles from the city and up in the mountains; (2) for construction of wharves at Port-au-Prince, Cape Haiti, and St. Marc; (3) for the erection, by parties of Port-au-Prince, of a paper factory, with workshop for printing, bookbinding, etc., attached; (4) for electric light plants at Port-au-Prince, Cape Haiti, Port de Paix, Aux Cayes, and Jeremie. Practically nothing has been done toward developing this group of concessions for want of capital.

TWO VALUABLE RAILROAD CONCESSIONS.

Concessions, which have been transferred to an American company, have been granted for two railroads. One of these is to run from the city of Gonaives on the coast to the town of Hinche, about 70 miles in the interior, near the Dominican frontier, with a branch line of 20 miles running to the village of Gros Morne. The other concession is for a line running from Cape Haiti on the northern coast and passing through the interior of the island at a short distance from the Dominican frontier and connecting with the first-mentioned road at Hinche. From the latter place it passes through the plains of l'Arcahaie to Port-au-Prince, a total distance of 200 miles. On this trunk line, between Cape Haiti and the town of Grande Riviere, a line will branch off to Ouanaminthe on the Dominican boundary, passing through the rich plains of the northern portion of the island.

On the first of these lines, from Gonaives to Hinche, about 15 miles have been finished and trains are run, while on the trunk line from the Cape of Haiti to Port-au-Prince 20 miles are completed and in operation, and surveys are being made for the rest of the line. This company has a guaranty from the Government of 6 per cent per annum on the estimated cost, $15,000 per kilometer (kilometer=0.62 mile) of the road when completed and in operation.

RAILROADS WILL OPEN NEW TERRITORY AND NEW OPPORTUNITIES.

Concessions have been granted for two copper and gold mines at St. Michael de l'Atelaye, and for coal mines at Maissade and Hinche. The copper and coal mines are along the route of the proposed railroad, and have been sufficiently developed to give promise of becoming valuable property.

Nearly all these concessions, the most promising ones, perhaps, ever granted by the Republic of Haiti, are now the property of corporations which are controlled by an American company. [The address of this company, also that of the New York firm representing the Plain-Cul-de-Sac Railroad Company, may be obtained from the Bureau of Manufactures.]

The building of the proposed railroads will open up to commercial, agricultural, and industrial activity the richest part of the country which hitherto has been of no benefit to the Republic, because it was inaccessible except by pack animals. Part of the territory which will be opened by these railroads is covered by forests of the best cabinet, construction, and dye woods. Good pasturage abounds on the plateaus of the interior, and on the plains are rich agricultural soils with healthful climate suitable for the growing of cereals and cotton, while in the vicinity of Cape Haiti, Ouanaminthe, and Port-au-Prince are rich banana and sugar soils. The new land thus brought within practical range of the markets is plentiful and cheap. There are plenty of laborers to be had at moderate wages, making this an inviting field for the investment of capital.

FRUIT, COFFEE, CACAO, ETC.

No island in the West Indies has soil better adapted to the cultivation of tropical fruits than Haiti, but while other islands are shipping millions of dollars worth of fruit to foreign countries this island produces barely enough for its own use. To build up this industry foreign capital is required, and the building of proposed railroads and the improvement of the highways are essential.

An average coffee crop of this country is 50,000,000 to 60,000,000 pounds, but this could be greatly augmented if proper attention were given to transplanting and care of the trees. The coffee grown here is of superior quality and is sold in the best European markets. It is only of late years that any attention has been given to the cultivation of cacao. It is successfully grown in many localities of the island, and begins to bear as early as the fourth year. With the exception of celery and asparagus, practically all the vegetables grown in the United States can be grown here and of equally good quality.

COTTON AND TOBACCO.

Cotton planted in May, 1908, began to mature in the latter part of October. The plants are nearly 8 feet high and have numerous branches. The first year's crop averages about 50 bolls to the plant and will continue to increase yearly in production for about twenty years. The fiber is not so long as that grown in the United States, but this could be improved by proper cultivation. Cheap lands and cheap labor should make cotton raising, on a large scale, in this island a remunerative enterprise. [Samples of cotton and cotton seed forwarded by Consul Terres may be seen at the Bureau of Manufactures.]

The soil of Haiti is well suited for tobacco growing. Only a little is raised, however, and that of an inferior quality, owing to the lack of attention in cultivation and curing the leaves. One plantation which is conducted on scientific principles is producing tobacco of a fine grade.

STATE AND PORT OF HAMBURG.

METHOD OF SELECTING STATE OFFICERS—OPERATIONS OF FREE PORT.

Consul-General Robert P. Skinner, of Hamburg, writes as follows on how the senate of the German State of Hamburg is constituted and on the chief features of the free port of Hamburg:

The State of Hamburg possesses a senate composed of its most eminent citizens. Civic pride, patience, and continuity of effort on the part of the senate has made this city the greatest seaport of Continental Europe, although it is 60 miles from the sea and on the banks of a capricious river. Senators are elected in Hamburg by a reversal of the popular processes which have been adopted in several American States. The modern American theory now applied practically is that the people should choose their representatives in the upper chamber by direct designation. The Hamburg system, which has worked well for generations, provides for selection by elimination.

The legislature of the Free State of Hamburg is composed of a house of burgesses and a senate. The burgesses, 160 in number, are elected for terms of six years. Of the 160, 80 only are elected by popular vote, and voters are separated into two classes, according to their incomes. Thus it may happen that a candidate receiving a smaller number of votes than his rival is elected because of the greater voting power of his electors. Another 40 burgesses are elected exclusively by real estate owners, and still another 40 by the notables of Hamburg, these being present and former members of the senate, house of burgesses, chamber of commerce, chamber of trade, and chamber of retail trade, the courts, and the administrative authorities.

HOW THE SENATE IS COMPOSED.

The senate, or superior legislative chamber, consists of 18 members. They must be over 30 years of age, and must have resided or transacted business in Hamburg during three years. Nine members must be jurists and seven must be merchants. The senators hold office for life, but can resign after six years' service. A citizen of Hamburg, having received the high honor of election as senator, must accept the office or forfeit his citizenship and leave the proud and ancient city within twenty-four hours. The senate elects two burgomasters from its own members every year, one of whom acts as president of the senate and is the chief magistrate of the city. The burgomasters are usually selected, by virtue of their seniority in office, from among the jurist senators. Jurist senators are not permitted to practice, and receive $5,950 per annum. Other senators may engage in business, and receive $2,856 per annum.

Candidates for the Hamburg senate are chosen by a joint commission of four burgesses and four senators, called the "wahlaufsatz" (nominating committee). This commission nominates four eligible persons whose names go to the full senate, in which body two names are stricken from the list. The remaining two names go to the house of burgesses, where one is elected.

FREE PORT OF HAMBURG.

The free port of Hamburg is a portion only of the State of Hamburg, and the term does not mean that the merchants of Hamburg enjoy the privileges of free trade. Every imported article consumed in this city is subjected to precisely the same régime as in every other portion of the German Empire. When the State of Hamburg entered the Zollverein in 1888, it was agreed that a territory of 10 kilometers (kilometer=.62 of a mile) square should be freed from the jurisdiction of the German custom-houses. Within this area goods are received, manipulated, manufactured, and reexported, free of duty other than certain light dues to cover cost of administration. In other words, the business community of Hamburg enjoys, together with all the benefits of tariff protection in respect to domestic commerce, all the advantages of absolute free trade in respect to foreign commerce, and this vantage ground has been a potent instrument in developing the world-wide relations of the city. In addition to its facilities for the reception and manipulation of merchandise, the Hamburg free port contains 83 different manufacturing plants, which employ about 11,000 workmen.

The operations in the free port are carried on as follows: Ships proceeding up the river to Hamburg from the sea must take on a sworn pilot, or else have the holds sealed with lead seals. Generally it is preferred to take on a pilot, as the sealing process requires time. The presence of the sworn pilot gives the customs officers the guaranty they require that the ship is proceeding in fact to the free port with unbroken bulk. Upon arriving, captains of vessels deposit their manifests and declare their cargo, this being required for statistical purposes.

TREATMENT OF GOODS IN TRANSIT.

Merchandise must be declared "in transit" or "in importation." Merchandise in transit pays no tariff dues other than a statistical stamp, and may be reexported without let or hindrance. Merchandise in importation is such as enters the port by land or sea, there to become the object of sale, warrant, or speculation, or to be advanced in value by industrial transformation or otherwise. Such goods, if they arrive by sea, pay an import tax of one per thousandth ad valorem. When they are subsequently reexported, if by sea, the formal declaration is subject to a trifling payment. Taxes and formalities are reduced to their most simple expression as a means of favoring export trade.

The free ports of to-day, of which the one at Hamburg is the most remarkable in the world, are of modern conception, a logical consequence of tariff systems as they are now administered, and are not comparable to the free ports of the past. The free ports of other centuries were often free only to their own citizens and ships, while formalities, taxes, and obstructions were multiplied to prevent trade from being absorbed by alien peoples. The modern conception of a free port is exactly the reverse. It recognizes the necessity of the custom-house, but sets aside a particular location, which practically is free to all goods and to all flags. The free port is a State within a State.

FRENCH AND AMERICAN SUBSTITUTES FOR FREE PORTS.

The French Government, while studying the whole free-port question since 1896, has endeavored to facilitate export trade by rebating the duty upon certain classes of raw materials when they are reexported in original or manufactured condition. It is not even necessary that the same identical goods be reexported in order that the duty may be rebated. For example, a million or more of bushels of macaroni wheat from America find a market annually in France. It would be impossible for this wheat to enter France profitably but for the fact that the custom-house receipts may be presented for rebate on the exportation of equal quantities of flour made of French-grown wheat.

The American tariff laws also provide for a "drawback" equal to 99 per cent of the amount of duty paid on imported materials when such materials are reexported. But as this "drawback" contemplates the reexportation of the identical goods imported, and is not payable on the reexportation of an equal amount of similar goods, the process of collecting the money is laborious, and the results do not approximate those attained by the existence of free ports.

While Hamburg is the most perfect existing type of the free port, other ports of similar nature are to be found at Bremen, Geestemünde, Brake, Cuxhaven, Stettin, Neufahrwasser, Emden, Copenhagen, Kola, Genoa, Trieste, and Fiume.

INSURANCE AND ANNUITIES.

GERMANY.

INTRODUCTION OF A NEW SYSTEM OF HORSE INSURANCE IN SAXONY.

Consul Carl Bailey Hurst, of Plauen, furnishes the following information concerning the new system of horse insurance about to be introduced in Saxony:

The existing live stock insurance companies in Saxony are not patronized by farmers to the same degree as other lines of insurance. Among the chief difficulties with which such insurance has to contend are found the high premiums demanded, and as a consequence most people have held aloof from securing protection of this sort.

Several private insurance companies for horses alone have already been organized here and have paid well. With this experience as a basis, state authorities have worked out a plan, which has been sanctioned by the Saxon Government, for the introduction of a soliped insurance. As horses are the principal animals considered, the new insurance is generally termed horse insurance. All horses, asses, and their crossbreeds, over half a year old, may now be insured. Written request for such insurance must set forth the total value of insurable stock of the same kind of animals belonging to the applicant.

The five classes into which this insurance is divided and the rate of premiums on the insured value for each class are as follows: (1) For animals used solely in farming, and also for foals, 1½ per cent; (2) for such animals as are, in addition, used for industrial purposes, for driving and riding for private use, and for breeding, 2 per cent; (3) for animals used in bakeries, butcher shops, and like trades, hotels, wood yards, mills, express companies, and livery stables, 3 per cent; (4) for animals used in building, breweries, factories, and mines, 4 per cent; (5) for those used in heavy carting brickyards, and quarries, 5 per cent.

Animals for which insurance is asked will be valued and classified by a special committee. State and municipal authorities will issue public summons to those interested in the various districts, in order to facilitate the development of small insurance societies throughout the country, which will in turn be affiliated with a larger concern through Government mediation and supervision.

JAMAICA.

ADJUDICATION OF INSURANCE CLAIMS NOW ACCOMPLISHED.

Consul F. Van Dyne, of Kingston, makes the following report on the settlement of the insurance claims in that Jamaican city:

The litigation which had been pending for a year and a half between the Kingston policy holders and the British insurance companies on account of the losses resulting from the fires which accompanied the earthquake of January 14, 1907, and which involved the business portion of this city, has been settled by an agreement arrived at by the representatives of the English fire offices and the agents of the Jamaica Policy Holders' Association.

By the terms of this settlement each claimant who is a member of the policy holders' association is to receive a sum equivalent to 85 per cent of the amount of his claim. The insurance companies are also to pay the costs of the litigation. The number of claimants is about 800, and the total amount to be paid by the companies is about $3,000,000, with costs amounting to about $350,000 more.

The following are the companies concerned:

Aachen and Munich,
Alliance (including Imperial),
Atlas (including Manchester),
Commercial Union,
Guardian,
Liverpool and London and Globe,
London Assurance,
London and Lancashire,
National and Ireland,
Netherlands,
North British and Mercantile,
Northern,
Norwich Union,
Palatine,
Phœnix,
Prussian National,
Royal (including Queen's and Lancashire),
Royal Exchange,
Scottish Union and National,
State,
Sun (including Patriotic),
Western of Canada,
Yorkshire (including Lion).

The claims of policy holders not belonging to the policy holders' association will be settled on an 85 per cent basis, but without the payment of costs. The claims are now being paid in alphabetical order by representatives of the insurance companies sent from London.

While some creditably appearing business houses have been rebuilt here, the general rebuilding of the city has been delayed, awaiting the result of the litigation, the issue of which has been so satisfactory to the policy holders.

CANADA.

GOVERNMENT BUREAU FOR THE SALE OF ANNUITIES TO WORKINGMEN.

From an article in the London Economist the following details concerning the new act passed by the Canadian parliament, establishing a bureau for the sale of annuities to workingmen, are taken:

In the establishment of the bureau, the government is not involved in any pecuniary responsibility beyond the mere cost of furnishing the machinery, which will not exceed $25,000. The smallest annuity that can be purchased is $50 and the largest $600. Except for certain reasons, ordinary annuities are payable till the annuitant has reached the age of 55. They can not be seized for debt, are nontransferable, while money once paid in on account can not be withdrawn. If payments are interrupted by sickness, loss of employment, or any other cause, they may be renewed at any time. Payments may be made weekly, monthly, or yearly, or in lump sums, as is most convenient.

A workingman who at the age of 30 begins to pay 25 cents a week obtains at the age of 55 an ordinary annuity of $47, or if he continues his weekly payments till he is 70 he thereafter receives nearly $200 annually. For the same weekly payment begun at 20 he receives at 60 an annuity of $130, and if he leaves it on deposit with the government on the understanding that it shall be employed to purchase additional amounts of annuity to commence at 65, he receives a further sum of $80, making his total annuity at 65 $210. If, when he is 20, he begins with a lump sum of $10, followed by weekly payments of 25 cents, with lump sums of $10 every 5 years, until he is 60, he is entitled to an annuity of $151; but if his employer adds $10 a year the annuity at 60 becomes $253, and, in the event of the annuitant's dying, say at 50, his heirs receive $1,215; or if the employee pays 25 cents per week and the employer $10 a year, the annuity at 60 is $231, and if the annuitant dies at 50 his heirs get $1,110. A man may at 40, by a single deposit, pay arrears of premium between 20 and 40 and complete the contract as if he had entered at 20. Employers of labor may contract for annuities for employees, and fraternal and benevolent societies for annuities for their members.

PUBLIC UTILITIES.

COLOMBIA.

PROPOSED ERECTION OF A NEW ELECTRIC POWER PLANT.

Consul-General Jay White, of Bogota, furnishes the following information concerning the inadequate light and water supply of the capital of Colombia and the proposed erection of a new electric plant to meet its requirements:

At present the streets of Bogota are not lighted, the chief reason being that the electric company, which has its power station 20 miles from the city, has not sufficient power to supply the necessary electricity for both house and street lighting; even only a limited number of houses are supplied, owing to low water in the river.

The site on which it is proposed to erect the new plant is a private estate, about 3 miles from Bogota, and 656 feet above the level of the city. This estate, of 1,900 acres, is intersected by four streams, which form part of the headwaters of the Rio Cristobal. These streams, having running water even in the driest seasons, can give the city a sufficient supply of water and electric light enough not only sufficient to meet street and house demands, but power enough, during the day, to run small motors, etc., the demand for which is rapidly increasing.

The city could be well lighted with 250 arc lamps or with 25 arc lamps and 1,000 25-candlepower incandescent lamps. The cost for the installation of these systems is estimated as follows: The all-arc-lamp system, about $47,000; the arc and incandescent system, about $42,000.

If, as it is said, the Government offers about $25,000 per annum for lighting the streets, the contract for building the new installation on the El Delirio estate should be a good business for a small company. In addition to the offer of the Government for street lighting, it is estimated that a yearly income of $10,000 would be derived from renting power to private parties. Deducting the working expenses, this would leave an annual net revenue of over $24,000.

To arrive at a close estimate for supplying sufficient water for the city it would be necessary to make a thorough survey in the vicinity of the ground where the stream passes through a narrow rock canyon and thence along the route of the mains to a position suitable for the filtering beds and tanks.

MEXICO.

IRRIGATION AND POWER ENTERPRISE—MACHINERY PURCHASES.

The waters of Lake Chapala, between the States of Jalisco and Michoacan, are to be utilized for a vast development enterprise, concerning which the Mexican Herald says:

> Arrangements have been made by Manuel Cuesta Gallardo, of Guadalajara, and Fernando Pimentel y Fagoaga, of Mexico City, for the organization of a company capitalized at $5,000,000 gold to take over and work the Cuesta concessions for the use of the waters of Lake Chapala for irrigation purposes and for the development of power on the Santiago River. Lic. Lorenzo Elizaga, a brother-in-law of President Diaz, who has been interested in the Cuesta concessions for several years, will be a member of the new company.
>
> It is believed that more than 200,000 hectares can be irrigated from Lake Chapala (which is 1,300 square miles in extent). The company will receive $10 gold per hectare (2.47 acres) from the Government for irrigation. They will also be allowed to claim all land reclaimed by the lowering of the level of Lake Chapala.
>
> The power developed on the Santiago River will be used principally for pumping purposes. Last year Mr. Cuesta made a contract with a German house, Siemens-Schuckertwerke, for power and pumping machinery amounting to several million dollars, and the consignment of goods is now en route to Mexico.
>
> It is stated that the new company will receive money from the Caja de Prestamos. Mr. Cuesta will be general manager of the organization.

RAT EXTERMINATION.

JAPAN.

RELENTLESS WAR MADE ON THE SPREADERS OF BUBONIC PLAGUE.

Consul John H. Snodgrass, of Kobe, gives the following account of the systematic fight that is being made in Japan against the rat pest:

As propagators of disease, rats are the worst known pests in Japan, it having been definitely settled that plague is spread far and wide by them, and so dangerous have they been to human life that the Government has set a price of 5 sen ($0.02½) on the head of every rodent, and has ordered a wholesale importation of cats, the number of the latter having been increased at Tokyo alone by 30,000. Rats are hunted and killed with the utmost vigor.

Cats have hitherto been excluded from the households, owing to their cunning disposition and unsociable nature. Since the outbreak of plague in this district some years ago, and more especially since the recommendation of Doctor Koch to keep cats in order to effect the destruction of rats, the popularity of this domestic animal has grown at a rapid rate. Several cities now boast a society which aims at the improvement of the breed of the domestic cat, and competitive shows, combined with rat-catching tournaments, are held from time to time under the auspices of the society. Many devices are employed by the Japanese in catching rats or securing them dead or alive, so that they may get the benefit of the bounty provided by the Government. The bodies are taken to the police station, where they are properly tagged and then turned over to the Government medical department whose experts in bacteriological research examine them thoroughly, removing their heart, lungs, and entrails, and if the animal is found to be infected with plague bacilli the house where it was caught is at once quarantined and a similar study of rats found in adjoining properties is made.

POISONS EMPLOYED—GOVERNMENT MAKES USE OF RAT SKINS.

To aid in this effort to stamp out plague by removing the origin, various rat exterminators of both local and foreign formulæ are used, over $4,000 worth of arsenic having been imported from Great Britain and Germany in 1908, and a well-known American rat poison having been introduced with pronounced success. It might be stated in passing, that the Government utilizes the rat skins, all of which are tanned, by having them sewed to the clothing worn by its soldiers in Manchuria so that the bounty paid for rat scalps is partially repaid, not only in the prevention of the spread of plague, but also in providing warm clothing for the army.

As there are so many local rat poisons on the market, and as it would require the expenditure of a large sum of money for advertising purposes in introducing a new foreign formula, it is problematical whether or not it would be wise to undertake the introduction of an unknown poison, even though it may have ingenious devices heretofore unknown in Japan. Furthermore, any local druggist could easily imitate the trade-mark and, with his new patent, easily outsell the foreign article. Should, however, American manufacturers desire to enter this field, they will of necessity print their labels and advertising matter in Japanese. The tariff on drugs and patent medicines is 20 per cent ad valorem.

CHINA.

SHANGHAI PLANS A CAMPAIGN AGAINST RODENTS.

The London and China Telegraph publishes the following in regard to the rat annoyance in Shanghai:

> The announcement made in the Municipal Gazette that plague exists in Shanghai among the rodent population is of grave moment, although, says the North China Herald, there is no occasion for undue alarm. From the statistics given by Doctor Stanley it is clear that the presence of the disease has been discovered before any serious mortality among rats has been observed, and we may hope, therefore, that precautionary measures will result in preventing the area infected from increasing. The steps to be taken in conjunction with the public to deal with the outbreak are enumerated in the health officer's report; they include inoculation and the organization of brigades to destroy rats and to render, as far as possible, houses and drains rat proof.

TOURISTS IN CUBA.

AMOUNT OF MONEY LEFT BY AMERICAN TRAVELERS LAST WINTER.

Consul-General James L. Rodgers reports that the detail of United States customs inspectors at Habana to examine the baggage of passengers proceeding to Florida ports has given the first satisfactory basis for estimate of the volume of the winter tourist invasion of Cuba. He also writes of the benefits derived:

The reports show that there have been over 7,000 examinations of baggage since January 1, and of that number it is safe to assume that at least 6,000 dealt with the effects of transient Americans. Adding to the tourists coming and departing by the way of Florida, the number of 500 weekly from New York and New Orleans, and it can be estimated that Cuba derived benefit from 10,000 visitors during the past winter season to March 1.

Just what this means financially to Cuba, and especially to Habana, it is impossible of course to state, but current opinion is to the effect that the average tourist spends about $15 per diem, and that the average sojourn is about four days. If such is anywhere near the fact, then it can be seen that the 10,000 tourists have left $600,000 in Cuba, and during the first two weeks of March there was probably an expenditure of a proportionate amount, making a total of $750,000. This is very much less than the usual estimate of the money expended, but as there is likely to be gross exaggeration in such matters, it is probably not much of an underestimate, if so at all.

The purchase of cigars, Canary Island and Spanish lace and linen, photographs, and various souvenirs constitute the ordinary method of spending money outside of that paid to the hotels, which accounts for a large percentage of the total.

The policy of the customs division of the Treasury Department of the United States, as expressed by the customs examination in Habana, has been greatly appreciated by these tourists, and has resulted in good in every way.

GERMAN MERCANTILE SUITS.

PURCHASER HAS NO REDRESS EXCEPT BY PROMPT DAMAGE CLAIMS.

Consul George Eugene Eager, in the following report from Barmen, calls attention to the German law governing the acceptance or rejection of merchandise ordered by one firm from another:

A question being asked by a New York firm as to "what chances a foreign firm stands with a domestic concern in fighting out a civil suit in a German court," the answer made was that the judgment would be an impartial one and that the foreign firm would have the same chances as the German concern.

The law in Germany, which applies as well to the foreign buyer as to the domestic, is most impartially enforced, as follows: If an importer buys goods of a German manufacturer, he must, immediately on receipt of the goods, go to the custom-house and examine them; if they are not what he has ordered in every respect, he must at once notify the manufacturer and refuse to accept them. If this is not done within a reasonable time (8 days) it is taken for granted that the goods have been accepted. The fact that the goods in question remained in bond for a time would not help the case.

With certain articles the law demands that an immediate trial be made. If a brewer buys malt he must, immediately upon the arrival of the malt, make a trial brew to determine the quality. If he should fail to make this trial and keep the malt until needed, and then discover that it was bad, he could obtain no redress in the courts.

It is the same with raw silk. If a manufacturer buys a certain quality of raw silk, the law requires that as soon as the silk is delivered a trial sample of the silk must be at once submitted to a silk dyer and expert, who must cook the sample and determine as to its quality. If this is not done at once and the results reported, it is considered that the silk has been accepted and must be paid for, whether the quality is as ordered or not.

In the present instance a New York importer having a branch house in Japan placed a considerable order for a bill of goods with a local manufacturer; the goods were shipped to the branch house in Japan and upon arrival were bonded and taken out of bond as needed. If the goods had been examined as soon as they arrived and the manufacturer notified that they were not the same in quality and color as ordered he would undoubtedly have been able to win his suit for damages in a German court.

Any foreign concern wishing to prosecute a German firm for damages in a breach of contract or other civil suit must deposit a sum of money in advance sufficient to cover the entire cost of the proceedings. In case the plaintiff should win his case, this money is refunded and the defendant must pay the entire costs.

RUSSIAN TRAVELING RESTRICTIONS.

NOTICE TO PERSONS DESIRING TO ENTER CENTRAL ASIA PROVINCES.

In transmitting from St. Petersburg a translation of a circular from the imperial ministry for foreign affairs concerning the admission of foreign subjects to the Russian possessions in Central Asia, Secretary of the American Embassy Montgomery Schuyler comments:

The Russian foreign office requests that as much publicity as possible may be given to this circular in order to avoid inconvenience to travelers in those regions. Attention is drawn to the fact that at least three weeks' notice must be given before the arrival of foreigners at the frontier of Russian Central Asia. The translated circular, dated January 9, reads:

Conforming to the existing rule, the entrance of foreigners into the Russian possessions in Central Asia is theoretically forbidden. Exceptions to this rule are nevertheless admitted and authorizations regarding them can be delivered in each special case to foreigners who wish to visit these provinces and who petition the Imperial Government to this effect through their diplomatic representatives in St. Petersburg.

Although this is the only proper method to obtain access to the districts in question, it sometimes happens that persons, ignoring this rule, travel directly to Central Asia, where the local authorities, acting in strict conformity with the prescription of the law, are obliged to forbid them the continuation of their journey. The frequency of these cases has considerably augmented during the last few months and it is obvious that the unexpected interruptions cause the travelers in question losses of both time and money, which are sometimes considerable. Their forced detention by the authorities becomes the cause of complaints which are devoid of all foundation, considering that the local authorities are merely acting in accordance with their instructions.

As a consequence the imperial ministry for foreign affairs considers it its duty to beg the embassy to take the necessary steps in order that the abovementioned regulations may be given as great a publicity as possible, in the interest of those travelers who wish to visit the Russian possessions in Central Asia and in order to do away in the future with the inconveniences which result from their involuntary infraction of the law.

The ministry has the honor to add that in the case where these rules concerning the admission of foreigners to the provinces in question are not observed by travelers the Imperial Government disclaims all responsibility regarding delays and losses sustained by the former. Added to this the ministry thinks itself obliged to particularly call the attention of the embassy to the absolute necessity of formulating its requests for authorizations in sufficient time, and in any case not later than three weeks before the projected date of the traveler's arrival in Central Asia, as the correspondence on this subject with the proper authorities necessitates a certain length of time.

APPLICATIONS FOR PERMITS.

Under date of February 22, Baron Rosen, Russian ambassador at Washington, addressed the following note to the Department of State:

The right of aliens to enter Turkestan for travel or sojourn, which was temporarily created in 1902, was limited by an Imperial Order in 1905 to persons specially authorized to that effect by the Imperial Government. In order to avoid misunderstandings arising from this limitation being unknown to foreigners coming to Russia, I am instructed by the Imperial Government to bring it to your excellency's knowledge, and to inform you that applications for permits to travel in Turkestan must be made by foreigners desiring to visit those parts through the representatives of their country accredited to the Imperial Government.

EXPLORATION OF KAMCHATKA.

RUSSIAN SCIENTIFIC INVESTIGATION OF THE PENINSULA.

There is an awakening interest in the Kamchatka Peninsula, the mainland of Asia north of the Japanese islands. Its 7,500 inhabitants live by hunting and fishing, though small quantities of barley and rye are raised. The capital is Petropavlovsk, on the east coast, and the exports comprise sable, fox, and other skins, whale oil, fish, and eggs. The trade is chiefly with Okhotsk. The following report concerning the exploration of Kamchatka has been received from Consul James W. Ragsdale at St. Petersburg:

The expedition of Th. P. Riabooshinski (zoological, botanical, and geological) sent out by the Geographical Society to prospect Kamchatka, arrived at Vladivostok on May 10 last, and two weeks later the party proceeded on steamers of the Voluntary Fleet. The whole summer zoological party prospected the Kamchatka River and its environs. The estuary of the river was studied, ornithological collections gathered, and the Nerpich Lake prospected, which until now has never been visited by naturalists. It proved to be larger than shown on maps; it is 45 versts (verst=about ⅗ of a mile) long, 20 versts wide and its waters are sweet. The study of fishes disclosed large amounts of salmon. On three meteorological stations the study of temperature of the ground is carried on at a depth of 3 meters (meter=3.28 feet) and it is intended further to sink shafts to a depth of 20 to 25 meters. The expedition had great difficulty in supplying means of transport, which were expensive, as well as labor. owing to the recent rise in prices for sable furs, in which trade the population is engaged. Further information on this expedition can only be expected in summer, as mail does not run regularly in winter.

FRENCH HOMESTEAD ACT.

NEW BILL IN CONGRESS SAFEGUARDS SMALL HOMES.

Consul C. H. P. Nason, of Grenoble, advises that a bill recently passed the French Chamber providing for the "safety of the small home" in France. He described its provisions as follows:

By the terms of this proposed new law a homestead, up to a certain value, will be made absolutely unseizable under any circumstances, whether for debt or otherwise. The purpose in view is to prevent small rural homesteads from getting into usurious or other hands by rendering it impossible to take possession of the humble cottage which shelters a family, or distrain on the instruments of husbandry or other tools necessary for earning a livelihood.

At the same time the projectors have in mind as a result of the law to encourage workingmen to buy the freehold of their homes for their families, under guaranty that such homes will be secured to them in permanence by the State, and can not be taken from them under any claim or pretext; and by this means also to diminish the exodus of working people from the country to the cities.

The value of the property which will thus be rendered unseizable under distraint is not to exceed 8,000 francs ($1,544); except in certain cases it is proposed, where dwellings or apartments have been acquired on exceptionally low terms, in keeping with an existing beneficiary building law.

With the consideration on the part of the Senate of certain by-provisions, such as expropriation in case of public necessity, insurance, the conditions under which household property shall be established, and who as a family shall be capable of administrating it, this praiseworthy statute will soon be enacted and put in force.

BRITISH LAW FOR JUVENILES.

LEGAL PROTECTION OF CHILDREN IN THE UNITED KINGDOM.

The following information concerning recent legislation in the United Kingdom concerning children and young persons is furnished by Consul-General Robert J. Wynne, of London:

An act of Parliament passed last session and known as the "Children's charter," which came into operation on April 1, 1909, is a most interesting and important measure. It is officially described as "an act to consolidate and amend the law relating to the protection of children and young persons, reformatory and industrial schools, and juvenile offenders, and otherwise to amend the law with respect to children and young persons." The expression "child" means a person under 14 years of age, while the expression "young person" means a person over 14 but under 16. The new law consists of 134 clauses and two schedules, which are comprehensively explained in a clipping from the London Daily Telegraph, which is forwarded. [On file for public inspection in the Bureau of Manufactures.]

GERMAN CULINARY INSTITUTE.

NOVEL SCHOOL AND MUSEUM OPENED IN THE CITY OF FRANKFORT.

Consul-General Richard Guenther reports that the German city of Frankfort has added to its many institutions of learning, sciences, and fine arts a new one of a novel character, which he thus describes:

The Culinary Art Museum was opened here in January in the new building specially erected for it by the International League of Cooks, which has its headquarters in this city. The object of the museum is to cultivate the culinary art to the highest degree. All the best publications, books, and periodicals, etc., treating of cooking, its auxiliaries, and components will be kept in the library and reading rooms of the museum. Collections of rare old publications, of bills of fare, and ornamentations re̍ferring to this branch of human activity will find a lasting abode there as well.

Every new dish of gastronomic invention will be duplicated and tested in the museum as to its merits, also every new mode of ornamenting the festive board, and contrivances used for cooking and the placement of the viands. It will be the university or high school for the chefs de cuisine, hotel keepers, gourments, and producers and dealers of fine food articles, relishes, game, fruit, etc. At the opening of the museum the city authorities of Frankfort and the leading hotels were represented. The chief cooks of Frankfort's patrician houses and of princely castles in the vicinity sent specimens of their culinary skill, which were placed on exhibition in the Salon Culinaire. This new institution will no doubt exert considerable influence in its sphere.

PLAYGROUNDS IN GERMANY.

THE MODEL SPORT AND AMUSEMENT PROVISIONS AT KIEL.

In reply to an inquiry from the board of education of the city of Chicago, Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning the model German playgrounds at Kiel:

For games for the young and other general games an area of 30 acres has been provided, and for polo and football games an area of 886 by 459 feet. Along the land side of this ground running tracks and one hurdle track, the latter with wall and ditch, will be laid out. At the ends of the running tracks there will be jumping ditches.

The playground is inclosed by a flat 1,500-meter (0.931 mile) track for horse races, as well as by a bridle path (sand track) of the same length and 16.4 feet wide. The race track is 66 feet wide and increases in width toward the grandstand, where it is 98 feet wide. On the south side of the ground there is a jumping garden, with various kinds of obstacles, for practicing purposes. The whole building is inclosed by a live hedge. The following buildings have been erected:

(1) The grandstand, 164 by 328 feet, containing 2 dressing rooms, 3 toilet rooms, scales and ambulance room, meeting room, 4 shower baths, rooms for the restaurant, and living and other household rooms for the lessee; (2) paddock (saddle room), containing

120 open and 6 closed boxes, as well as two chambers for grooms and mow for feed; the totalisators (betting booths) are on both sides of the grandstand; (3) music pavilion, shed for tools, with 12 chambers and dressing room, living house for the overseer, 3 box offices, and 3 toilet rooms.

The cost of buildings, fences, track grading, etc., was as follows:

Description.	Cost.	Description.	Cost.
Grand stand	$11,136	Overseer's house and stable	$2,618
Saddle room	2,285	Umpire's box	133
Tool shed	357	Fences and hedges, warning and other tables	5,430
Music pavilion	666	Grading track, drainage, etc., (180,800 cubic yards of soil removed)	34,655
Three box offices	357		
Three toilet rooms	1,713		
Two betting booths	571		
		Total	59,921

In the foregoing estimate the cost of real estate has not been considered. [A diagram of the Kiel sport and playgrounds is on file in the Bureau of Manufactures.]

AMERICAN CONSULS IN FRANCE.

TRIBUTE TO THEIR EFFICIENCY BY HIGH FRENCH OFFICIAL.

At the annual dinner of the National Society of French Professors held in New York, M. Jules Jusserand, ambassador of France at Washington, was the guest of honor and made an address from which the following tribute to the efficiency of American consuls in France is taken:

The foundation of the French character is based on conscience, method, and application. The Frenchman takes life seriously. To this seriousness, so poorly understood by some literary artists, I often see a consoling homage rendered in documents which bear little enough resemblance to poems or to romances, but whose testimony for all that has a moral value none the less. I refer to the American consular reports issued by representatives accredited to our country. I read all of them without missing a single one. I see constantly brought to light by them these serious traits, this clearness, this scrupulousness, this conscience, without which France would long since have ceased to be France. To these impartial friends of our country who see it near at hand, I address herewith my thanks; their writings have often caused me more true and lasting pleasure than many a celebrated literary effort.

FINANCES.

NATIONAL FISCAL AFFAIRS.

COLOMBIA.

REPUBLIC'S FINANCIAL PROGRESS HAS EXCEEDED EXPECTATIONS.

Secretary of Legation Paxton Hibben, of Bogota, furnishes the following information concerning the receipts and expenditures of the Colombian Government and the financial conditions of the country:

The following statistics cover the financial situation of Colombia at the end of the last fiscal year. The amounts herein given are stated in Colombian gold, which, while varying considerably in value with the rate of exchange, is nominally equivalent to United States currency.

The following statement shows the receipts of the Government:

Imposts.—Import duties, $6,966,653; export duties, $62,103; light and tonnage dues, $138,133; surtax of 2 per cent for extermination of locusts, $142,437; import duties on parcels sent by post and collected at post-office, $93,119; consular invoices, $498,029; duties on liquors, $257,263; duties on cigarettes, $490,498; duties on matches, $233,616; duties on tobacco, $133,660; total imposts, $9,015,511.

Taxes.—Stamp tax, $409,564; patent and trade-mark fees, $515; slaughter taxes, $1,489,238; leper tax, $104,675; miscellaneous tax, $303; total taxes, $2,004,295.

Monopolies.—Salt, $1,153,019; wines, $391,738; alligator fishing, $1,250; liquor manufacturing, $1,837,739; cigarette manufacturing, $27,037; match manufacturing, $235; tobacco production, $615,715; public lands and buildings, $17,339; state railways, $77,770; posts and telegraphs, $335,644; total monopolies, $4,457,486.

All other.—$166,940; total receipts, $15,644,232.

To the foregoing must be added $409,518 collections of taxes in arrears, making a total of $16,053,750 as the year's receipts against the original budget estimate of $15,494,583, and the revised budget estimate of $15,992,863, a gain of $60,887 over the budget estimate.

LOW RECEIPTS FROM INTERNAL REVENUE.

It is worthy of note that the items failing to reach the budget estimate fall under the headings of taxes and monopolies; that is to say, items of internal revenues having nothing to do with the foreign commerce of the country. They are those covering the receipts from mines and the mine tax, patents and trade-marks, rent of state property, leper tax, and estimated collections of arrears of taxation. No doubt the reason for the comparatively low receipts from these sources lies in the effect of the stringency resulting from the recent financial crisis in the United States, the force of which was considerable in this country.

The slaughter tax was formerly a government monopoly in hides, which, owing to the difficulty of maintaining it, was changed, about a year ago, to a tax, on the slaughter of cattle, of $2.50 per ox and $3 per cow.

The post is always a source of loss to the government, the deficit on this account amounting, in 1907, to $553,432. The receipts from telegraphs, however, were considerably more than estimated in the budget, while the expenses for posts and telegraphs were less than had been expected.

The principal sources of revenue, as will readily be seen, are from import duties, the slaughter tax, the liquor monopoly, and the salt mines.

EXPENDITURES—PUBLIC DEBT.

The expenditures of the several departments of the Government for the year 1907 may be given as follows:

Expended by—	Expenditures.	Expended by—	Expenditures.
Interior	$664,502	Public works	$2,164,209
Posts and telegraphs	1,369,813	Payments on debt	1,477,678
Justice	985,672	Pensions	194,977
Foreign affairs	394,964	Asylums, hospitals, etc	61,960
Finance	5,041,192		
War and marine	3,189,606	Total	15,992,863
Public instruction	448,290		

The budget estimate of expenditures was $15,494,583, showing an excess of expenditure of $498,280. It will be seen, also, that the actual expenditures exceed the actual receipts by $348,631, though possibly this sum may be offset, as it is claimed, by the value of the emeralds from the government mines as yet unsold and in the possession of the Government.

According to official reports, the floating debt of Colombia at the end of the last fiscal year was $3,063,012, to which must be added a government guarantee of 5.5 per cent on $690,000 in bonds of the Puerto Wilches Railway, interest secured on 5 per cent of the customs duties collected at the Atlantic ports and a government guarantee of 6 per cent interest on $2,225,000 in debentures of the Colombian National Railway, interest secured on 4 per cent of the customs receipts of the Republic. In addition to this floating debt, there is a so-called consolidated internal debt consisting of payments due various denominational (religious) schools and other institutions by agreement of the Government. The foreign debt is $13,500,000, bearing 3 per cent interest, payment of which is secured by 15 per cent of the customs receipts of the Republic under the Avebury-Holguin agreement of the council of foreign bondholders. To this must be added $526,500 arrears of interest on the foreign debt, to be paid in cash on the termination of negotiations with the United States, whereby Colombia should receive certain moneys from them. To this also must be added $935,600 in 5 per cent interest-bearing bonds of the Sabana Railway, secured by its profits, constituting part of the foreign debt. To the payment of these debts and their interest, to the redemption of "vales de extranjeros," and subvention of railways and other similar expenditures, were applied, in the year 1907, about 28 per cent of the receipts of import duties.

It may be said, in general, that the financial progress of the country has exceeded expectations.

BRAZIL.

ENCOURAGEMENT OF INDUSTRIES AND TRANSPORTATION.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following statistics concerning the Brazilian budget for this year:

The Brazilian budget for 1909, which was passed by Congress immediately before that body adjourned on December 31, 1908, has a number of items which are interesting from the standpoint of national progress. In a general way the budget provides for increased expenditures in the way of transportation and the encouragement of industry in the war and navy departments, and in most lines of governmental activity. While no material changes are made in the law in the way of providing for increased taxes, the estimates show an expectancy of larger revenue or, in other words, they show an expectancy of a prompt return of the trade of the country to the normal. The appropriations and the estimated receipts run considerably higher than those for the year just closed. The receipts of the Government are estimated at 79,694,198 milreis, gold ($43,513,032), and 274,233,000 milreis, paper ($82,269,900), a total of $125,782,932 for the ordinary purposes of the Government. They also are fixed at 18,215,439 milreis, gold ($9,945,630), and 12,287,500 milreis, paper ($3,686,250), or a total of $13,631,880 for special purposes.

The grand total of receipts of the Federal Government of Brazil for next year is estimated by the Congress at $139,414,832. The expenditures in the six departments of the Government are fixed at 75,390,272 milreis, gold, and 330,352,781 milreis, paper ($41,163,089 and $99,105,834, respectively), or a total expenditure of $140,268,923. These estimates of receipts and expenditures contemplate a deficit at the end of the coming year of $854,091, assuming that the estimated revenue is realized and the appropriations used.

APPROPRIATIONS BY DEPARTMENTS.

Appropriations are allowed for the several ministries, measured in American money, as follows:

Department of justice and the interior, $10,901,441, representing the support of the federal judiciary, and certain police and similar expenditures. It is substantially the same as the appropriation of last year.

Department of foreign relations, $1,797,977, representing the cost of maintaining the diplomatic and consular establishments and foreign department of the country. This appropriation is slightly larger than that of a year ago, the increase representing increased salaries in a number of cases and the establishment of a number of new consular posts.

The navy department, $16,568,217, representing some charges on account of the new Brazilian war ships now being constructed in England, and an increase of about 8 per cent over the appropriation of a year ago.

The war department, $18,799,868, an increase of about a million dollars as compared with the appropriation of a year ago, the appropriation of a year ago also including allowances for the construction of a new department building in Rio de Janeiro. The increased appropriation this year provides for increased strength, new arms for troops, and a general strengthening of the army. The Brazilian Congress, however, did not allow for as many men and as complete provision as were asked by the general staff.

The department of transportation and industry, $31,822,205. This department covers railway construction, extension of telegraph lines, postal service, and all similar activities. The appropriations include provision for additional railway building, in line with the present policy of the federal administration, for the extension of the telegraph service, and for some much-needed extension in the postal service. In these appropriations also are included the bounties paid by the Brazilian Government for several lines of industry, such as silk culture, road improvement, sugar-factory aids, and the general line of government-aided enterprises. In general, the appropriations for these purposes this year are substantially the same as those of last year, though the appropriations for the department as a whole exceed those of last year by about half a million dollars.

The department of the treasury, $47,152,925 for ordinary purposes and $13,226,690 for special purposes—a total of $60,379,615. The bulk of this sum goes toward the payment of Brazilian interest charges abroad, provides for general expenses and purposes of the Government not otherwise provided for, and is, in short, the "omnibus" appropriation of the Government. The appropriation for the new year is about $3,000,000 more than that for the year just closed.

The appropriations for the new year amount to a total of $140,268,925, and are about $5,600,000 more than those for the year just closed, most of the increase coming in the treasury, navy, war, and industry departments, in the order named.

ARGENTINA.

REDUCTION OF NATIONAL DEBT—CONVERSION FUND GROWTH.

Consul-General Alban G. Snyder, of Buenos Aires, contributes the following review of financial conditions in Argentina:

The Argentine's national finances are in a reasonably good condition, as is demonstrated by the state of the national debt and by the gold reserves held to secure the paper currency in circulation.

In spite of the fact that the estimates framed by the respective ministers of finance during latter years have been largely exceeded, owing to supplementary votes taken subsequent to the passing into law of the budgets, the national debt, though heavy in relation to the population, has been reduced upward of $20,000,000 gold since December 31, 1905. It now stands at slightly over 900,000,000 pesos, or approximately 150 pesos per head. This reduction has been obtained by means of ordinary amortization and by the payment out of current revenues of some 68,000,000 pesos voted by Congress for public works and other special objects in respect of which emissions of bonds were authorized and taken into account.

The budget law of 1907 was reenacted for 1908, with the comparatively trifling additions in the form of supplementary votes, while the estimates for 1909, now before Congress, show an increase of 4,000,000 pesos over the expenditure sanctioned for the previous year, which amounted to 232,645,000 pesos. With this annual increase in expenditure there has been a proportionately greater augmentation of revenue; and as this process is likely to be repeated in the coming financial year, a sum of 15,000,000 pesos has been set down to be paid out of ordinary revenues for the first quota of the cost of the proposed new armaments, which project, involving an outlay of some 150,000,000 pesos over a period of six years, has recently been passed by the House over the Senate's objections and become a law.

A further sign of prosperity is the ever-increasing accumulation of gold reserves held by the Caja de Conversion in guarantee of the paper and nickel currency in circulation. The gold in possession of the national treasury amounts to $125,000,000, or with the conversion fund to 58 per cent of the total value of the outstanding currency, calculated at the rate of conversion, now practically fixed, of 44 per cent.

The conversion fund (established in 1890 by law for the further guarantee of the paper currency), which was entirely used up during the period of trouble with Chile, has since been reconstituted out of general revenues and now reaches the respectable total of $24,500,000 gold.

FORMOSA.

IMPORTATIONS OF MACHINERY, ETC., SWELL CUSTOMS RETURNS.

Consul Carl F. Deichman, of Tamsui, forwards the following report on Formosan revenues:

The total income from all customs duties collected at the customhouse at Tamsui and Anping for the period from April 1 to December 31, 1908, amounted to $1,026,252, which exceeded the estimated amount by about $200,000. This increase was largely due to the heavy importations of sugar machinery, rails, and machinery supplies during the past season in the sugar district, but there is also an increase in other lines, indicating a growing volume of business for the colony.

In addition to these customs duties, there were receipts amounting to $124,500 from tonnage taxes, port dues, and miscellaneous taxes.

The export and import customs collections in the 1908 period named for the two districts are as follows:

District ports.	Export duty.	Import duty.	Total.
Tamsui	$133,620	$436,429	$570,049
Anping	13,670	442,533	456,203
Total	147,290	878,962	1,026,252

Adding the port dues, tonnage tax, etc., equal to $124,500, to the customs duties, makes a total of $1,150,752, United States gold, for the collections of the two districts of Formosa.

GERMANY.

FINANCIAL PLANS OF THE GOVERNMENT FOR THIS YEAR.

Ambassador David Jayne Hill has forwarded from Berlin the official documents relating to the fiscal measures of Germany for this year, which are filed for public reference at the Bureau of Manufactures. The following figures of receipts and expenditures are noted:

The estimates carried by the German budget for 1909 show a total expenditure of $626,027,287, of which $531,340,959 is the permanent statutory appropriation and $94,686,928 the annual appropriation. This is an increase of $26,434,239 over the total appropriation for 1908. The estimated revenues for the year fully cover expenditures.

The largest item of expense is for the imperial army—$184,421,800. This is a decrease of $5,446,971 as compared with the preceding year. This decrease is wholly on the annual appropriation, while the permanent appropriation for the army is increased $1,343,430. The estimate for the navy is $71,776,434, an increase of $9,197,064. The second largest sum under appropriations is for the imperial posts and telegraphs—$140,428,259. This department is credited, however, in the estimated revenues for the year with bringing in $160,042,529. The general pension list carries $27,396,105, and the fund for invalid soldiers and seamen $8,387,595. The expenditures for government railways are estimated at $24,225,799, while the estimated revenue from this source is $29,343,258.

BANKS AND BANKING.

GERMANY.

SUCCESS OF NEW POSTAL CHECKS ESTABLISHED BY GOVERNMENT.

Consul Thomas H. Norton, of Chemnitz, in reporting that the system of carrying accounts in a post-office and drawing checks upon the same was introduced in the German postal system on January 1, 1909, reviews the initial success which it has already attained:

This assumption by the postal department of one of the functions of banking does not seem to have awakened the opposition of bankers, and it certainly has met the stamp of popular approval, as evidenced by the results of the first month's business.

At present bank accounts are kept in only a few large post-offices, each of which meets the wants of an extensive territory. At the close of January the number of such accounts in the Berlin post-office was 3,479; Leipzig, 2,877; at Cologne, 2,872; etc. The total number of accounts opened during the first month was 16,210. Deposits during the month were (in round numbers) $20,000,000, of which sum $6,000,000 was in the form of postal checks, transferred from one account to another, out of $15,000,000, total value of checks drawn. Of the remaining $9,000,000, the sum of $4,000,000 was paid in cash, the remainder by postal orders to other offices. At the close of January over $4,200,000 was on deposit in postal banking accounts.

There is every indication that this new feature of the German postal service will do much to familiarize the people at large with the use of checks for ordinary transactions. To the American sojourning in the Empire it is odd to observe the rarity of the use of checks in connection with payments outside of important business transactions. Municipalities, official boards, mutual insurance organizations, and other similar bodies are among the first to establish postal deposit accounts, and their example will do much to popularize the general practice and lessen the vast amount of coin and bank notes now required for the ordinary daily payments of the German people.

IRELAND.

STATISTICS SHOW STEADY INCREASE IN BANK RESOURCES AND DEPOSITS.

The following statistics regarding banking in Ireland for the year ended June 30, 1908, are taken by Vice-Consul A. D. Piatt, of Dublin, from statistics recently published by the Department of Agriculture and Technical Instruction for Ireland:

The deposits and cash balances in joint stock banks in Ireland amounted on June 30, 1908, to $246,225,454 (exclusive of $14,185,847 in government and other public accounts in the Bank of Ireland), being the highest amount on record and $12,307,378 in excess of the amount on June 30, 1907. Comparing the deposits and cash balances since June, 1888, there has been a gradual yearly increase every year with the exception of 1897, the total deposits and cash balances having increased from $147,503,615 on June 30, 1888, to $246,225,454, or by $98,721,839 in twenty years. These figures are of considerable interest as indicating the growth of the operations and influence of banking in Ireland. They do not, however, in themselves gage the growth of net savings. Such a growth and its extent could only be determined by a complete account of savings on the one hand and of indebtedness on the other. But for this account the necessary data are not available.

The estimated amount on deposit in the post-office savings banks in Ireland on June 30, 1908, was $51,716,295, being a decrease of $48,665 as compared with the previous year. This is the first occasion on which there has been a decrease recorded in the post-office savings banks in Ireland. The amount on deposit in the trustees' savings banks in Ireland on June 30, 1908, was $11,903,459, a decrease of $243,325 as compared with the previous year.

The total amount of government funds, India stocks, guaranteed land stock, guaranteed 2¾ per cent stock, and war stock, on which dividends are payable at the Bank of Ireland, amounted on June 30, 1908, to $185,948,965, being a dcerease of $4,774,036 as compared with the previous year.

The average bank-note circulation for June, 1908, was $31,238,063, being a decrease of $326,055 as compared with the previous year.

DOMINICAN REPUBLIC.

NEED OF A BANK—HIGH RATES OF INTEREST IN THE REPUBLIC.

In stating that one of the present needs in the Puerto Plata consular district of Dominica is a reliable bank, Consul Ralph J. Totten explains why:

Money is a commodity and, as is the case with any kind of merchandise which is a general necessity, must be handled by a regular dealer who understands the market and keeps his stock replenished to meet demand. The conditions obtaining in this country make a reliable bank an absolute necessity.

When the Dominican cacao and coffee crops begin to come on the market the merchant and exporter must have money to buy these products. The cash that they may have on hand is soon exhausted, and drafts must be negotiated or money borrowed from the local money lenders. Legal tender increases in value and drafts decrease. Drafts on New York are discounted at from 1½ to 3 per cent, while drafts on Europe often reach a discount of 6 per cent. That is to say, money costs from 1½ to 6 per cent.

In the season between crops the money gradually comes back to the general merchant, who soon has his safes full. But the bills for merchandise must be paid and he must have drafts to send in payment. Exchange rises until it reaches the same figures that money attained in the crop season; that is, from 1½ to 6 per cent.

This system is not only too costly, but is often inadequate. Frequently ready money can not be had at any price and must be imported at considerable expense and danger of loss. It is also difficult at all times to secure drafts for small amounts and greenbacks must be sent through the mails.

A bank would also be of great benefit as a depository of small savings. The wage-earner who is not able to buy a costly safe must bank his savings in a wooden box and hide it where it is in danger of loss by theft or fire.

A branch of some reliable banking firm in the United States would seem to be the best solution of this matter. There is no doubt that it would pay a good return for the money invested. Money is always in demand here. Many of the local money lenders have no difficulty in placing their capital as high as 2 per cent per month, with the best of security. It would be of great advantage to American interests to have an American bank in the Dominican Republic and would, no doubt, have a tendency to turn a part of the business now transacted abroad to the markets of the United States.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

BRAZIL.

APPOINTMENT OF A NONPARTISAN TARIFF COMMISSION.

Consul-General George E. Anderson, writing from Rio de Janeiro, February 15, 1909, gives an interesting account relating to the creation of a tariff commission for the purpose of making recommendations to Congress for the revision of the present tariff. The consul-general says:

The movement, which has been more or less felt in Brazil for the past four years, in favor of a thorough and comprehensive revision of the Brazilian tariff system, not only in its rates but in the rules of its administration, the bases of its charges, and, in short, in the entire customs system, has taken definite and effective shape in the appointment of a nonpartisan commission of business men and statesmen by the Hon. David Campista, minister of state for finance. The commission is to consider the whole matter of revision and formulate a report for the consideration and action of the Brazilian Congress which is to meet in May. This commission is appointed under general executive authority, and its work is to be advisory only. But the standing of its members and the combined influence of the interests which they represent is such as to insure respectful attention to its views. The commission as announced by the minister is composed of Dr. José Carlos Rodrigues, editor and chief owner of the Jornal do Commercio, who is the president of the Commercial Association of Rio de Janeiro, an organization which in a way takes the place of a board of trade, but which is in some respects more influential than most organizations of that kind; of Serredello Corrêa, president of the Centro Industrial, the organization of national industries protected under the tariff laws of the country; Dr. Corrêa da Costa, inspector general of customs in Rio de Janeiro and representative of the technical element in customs affairs, and the president at the time of the Association of Commercial Employees in Rio de Janeiro, the great organization of middle-class employes of the capital, who will thus represent the consumers of the country, together with the president at the time of the Centro dos Ceraes, or grain exchange, who will represent the agricultural element of the population.

This commission is to commence its sessions at once and will continue its work until it has been able to make a thorough investigation into all phases of the tariff problem in Brazil. It is to hold open hearings and to receive petitions, statements, protests, and all forms of formal representation as to the subject in hand, including representations from those in a position to present the subject from a foreign view point. The work of the commission will be put into the form of a report to the minister of state for finance, who will submit it to Congress, accompanied by recommendations of his own as to the report and the tariff in general. Congress is to meet in May, but probably will not be organized for business before July, and it is the plan of the federal administration to present the matter of a complete revision of the Brazilian tariff at that time as the great work of that session of Congress and of the administration now in power. How complete this revision of the tariff will be rests of course with the Brazilian Congress, a new Congress having been elected this month (February), which is understood to be strongly in favor of a thorough and even radical revision. There seems to be no general, much less an organized, opposition to such revision. That there will be any abandonment of the principle of a protective tariff, or indeed any general change, from the high duties common in the present schedule is hardly to be expected, but there is reason to expect that many of the deficiencies of the present system, which have long been recognized by Brazilian officials as well as by foreigners dealing with Brazil, will be remedied and the tariff system of the country brought into a shape more in keeping with the needs of modern trade. Some of the excessive rates which go back to the time when the articles they cover were luxuries, but which now are commonly accepted as necessities, will unquestionably be changed. One great reason for the impending revision, according to the statements of Brazilian authorities in this connection, is the advisability of raising more revenue from the tariff and less from internal taxation, and this need is likely to lead to a general lowering of rates on many articles of common consumption which now are all but shut out by duties which raise their cost in Brazil beyond the consumption point. There can be considerable reduction in many lines and yet leave the resulting rates high among the tariff systems of the world.

The present tariff of Brazil was adopted in 1900. It has received many amendments since that time, almost all in the direction of an increase in rates. It was modeled upon a tariff system which goes back with comparatively few modifications to the time of the empire in the early part of the last century, and many of the inconsistencies of the present are due to a lack of adaptability of the old system to new conditions. One of the greatest reforms to be effected in it is to give a more general form to its provisions and do away with the many exceptions, special rates and privileges, and elaborate calculations necessary to establish duty to be paid under present conditions.

ADDITIONAL EXPORT DUTY ON COFFEE.

The London Financial Times states that the commissioner for the State of São Paulo at Antwerp received on March 6 from his Government the following telegram: "As the amount of coffee exported from the State of São Paulo has reached the set limit of 9,000,000 bags, an additional 20 per cent ad valorem duty is now being imposed at all the places from which coffee is exported."

EXPORT DUTY ON RUBBER FROM THE TERRITORY OF ACRE.

Mr. Henry L. Janes, American chargé d'affaires at Rio de Janeiro, Brazil, reports under date of December 31, 1908, that the national budget law of Brazil for the year 1909 provides for a general duty of 20 per cent on all rubber exported from the federal territory of Acre.

According to article 2, Clause XIII, of this law, the president of the republic is authorized to grant a reduction of 6 per cent in the amount of duty paid, according to a sliding scale whose maximum is 20 per cent and whose minimum is 14 per cent of the official valuation placed on the crude article, this privilege to go to syndicates of producers organized under the law of January 6, 1903.

CANADA.

MICHIGAN REMOVED FROM LIST OF QUARANTINED STATES.

By the circular issued by the Canadian department of customs on March 20, the quarantine order issued on January 25 under the animal contagious diseases act, prohibiting the importation of animals and certain products from the States affected by the foot-and-mouth disease, is amended by removing the quarantine against the State of Michigan.

CHINA.

IMPORTATION OF MORPHIA PROHIBITED.

The American minister at Peking transmits, under date of January 5, 1909, a copy of the regulations issued by the Chinese Imperial maritime customs governing the importation of morphia and instruments for its injection. The new regulations read as follows:

> On and after the 1st of January, 1909, the manufacture in China by Chinese and foreigners of morphia, and of syringes, needles, and such like instruments for its use, is absolutely prohibited; and the importation of the same into China by Chinese and foreigners is likewise prohibited, except in the case of duly qualified foreign medical practitioners and foreign chemists and druggists complying with the following conditions:
>
> 1. Duly qualified foreign medical practitioners desiring to import morphia and instruments for its use must sign a bond before their consul stating the quantities to be imported and their values, the place whence arriving and the method of importation, whether by steamer (the name of which must be given), rail, or post, and guaranteeing that these articles will be employed for medicinal purposes only, either in their private practice or in some specified hospital. Upon the consul forwarding the bond to the custom-house a special landing permit will be issued after payment of duty.
>
> 2. Foreign chemists and druggists desiring to import morphia and instruments for its use must sign a bond before their consul stating the quantities to be imported and their value, the place whence arriving and the method of importation, whether by steamer (the name of which must be given), rail, or post, and guaranteeing that these articles will be used exclusively in the compounding of prescriptions or sold in small quantities only on the requisition of a duly qualified foreign medical practitioner. Upon the consul forwarding the bond to the custom-house a special landing permit will be issued after payment of duty.
>
> 3. Any such importer of morphia and instruments for its use found dealing with or selling such, otherwise than in accordance with the terms of his bond, will not be permitted to make any further importation.
>
> 4. All morphia and instruments for its use landed without special customs permit will be confiscated.
>
> 5. Duty on morphia and instruments for its use imported under the above provisions will be levied at the reduced rate of 5 per cent ad valorem.
>
> 6. Morphia and instruments for its use shipped to China by foreign merchants from foreign ports before 1st of January, 1909, may be landed under the old regulations during a period after that date, the limit of which will be fixed in every instance by the custom-house concerned according to the date of shipment and the distance of the port whence shipped. Any morphia so landed under the old rules must pay duty at the present tariff rate without reduction.
>
> The necessary blank bond forms will be issued by the customs on application free of charge.

COLOMBIA.

REGULATIONS FOR THE IMPORTATION OF FIREARMS AND AMMUNITION.

Consul Charles C. Eberhardt, of Barranquilla, reports, under date of January 26, as follows regarding the Colombian laws and regulations governing the importation of firearms, ammunition, etc.:

Various persons coming from the United States during the past year, bound through Barranquilla for the interior, have met with considerable delay and inconvenience at the local customs-house because of their ignorance of such requirements, it evidently being the prevailing opinion at home that one might carry with him, without question, a rifle, revolver, and shotgun and their necessary accouterments. Such is by no means the case, however, as Colombian law is very strict on this point. Even dealers in firearms, ammunition, etc., are required to secure permission from the minister of war at Bogota before they may be allowed to import these articles in any quantities whatever, and the Colombian tariff specifies that, according to article 34 of law 63 of 1903, importations into Colombia "of all kinds of artillery, such as cannon, rapid-fire guns, etc., and all such arms as rifles, carbines, and the like, are absolutely forbidden to private individuals."

It will therefore be seen that persons carrying rifles, for instance, are entirely without their right in asking that they be permitted to bring them into the country. There have been cases, however, in which the local customs officials, on being assured that the rifle has not been for sale nor for the use of any person other than the owner, have telegraphed to the minister of war at Bogota for special permission to allow the entry, and, so far as I have learned, such permission has always been granted, though it must be remembered that this is but an act of courtesy, and one has no reason to expect that this permission may not be refused. Bond must be furnished to the governor of the department through which the entry is made, the amount of such bond being fixed by the governor at his own discretion.

PERMITS FOR SHOTGUNS AND REVOLVERS—CONFISCATIONS.

In the matter of shotguns or revolvers more leniency is observed here in Barranquilla, at least. According to a recent arrangement, if it can be proven to the satisfaction of the administrator of the local customs-house that one's vocation—a miner in the interior, for instance—calls for the occasional use of such arms, the official can, at his own discretion and on his own responsibility, issue the permit for their entry, together with a reasonable amount of ammunition, etc. The gun must be registered before him, the certificate of registration showing the name of the manufacturer of the gun, its caliber, manufacturer's number, and other distinguishing marks, and the owner is given a copy of the certificate, which should settle the question of his right to be in possession of such weapon should any dispute over the matter arise. Firearms may be confiscated if found in one's possession without such permit, though there is no further penalty that I am aware of.

In view of the foregoing laws and requirements, it seems wise to suggest to prospective visitors to Colombia that shotguns or revolvers be brought only in case they seem absolutely necessary, and that the bringing in of rifles, carbines, etc., be discouraged entirely.

Google

FRANCE.

PROPOSED CHANGES IN RATES ON PETROLEUM AND ITS PRODUCTS.

Consul-General Frank H. Mason transmits a copy of a proposed bill referred to the French tariff commission, which provides for the following changes in the rates on petroleum and its products:

Petroleum, schist, and other mineral illuminating oils, crude, to be reduced from 18 to 9 francs per 100 kilos net in the general tariff, and from 9 to 1 franc per 100 kilos net in the minimum tariff.

The duty on the same oils refined is to be reduced from 25 to 12.50 francs per 100 kilos net in the general tariff, and from 10 to 4 francs per 100 kilos net in the minimum.

Essences of mineral oils, which are now subject to the same duties as refined mineral oils, are to be dutiable, under the proposed law, at 40 and 30 francs per 100 kilos net under the general and the minimum tariffs, respectively.

The duty on heavy oils and residues of petroleum, schist, and other mineral oils is to be reduced from 12 to 8 francs per 100 kilos net in the general tariff, and from 8 to 5 francs per 100 kilos net in the minimum.

By the terms of the agreement of January 28, 1908, between the United States and France, mineral oils from the United States are admitted under the minimum tariff.

CHANGE IN CLASSIFICATION OF SULPHUR IN PROPOSED TARIFF.

Consul-General Horace Lee Washington reports from Marseille under date of March 8 that by a proposed change in the French import tariff, recently submitted for consideration to the Chamber of Deputies by the tariff revision commission, the classification of sulphur admitted free of import duty is to be modified by the substitution of the words "non fabriqué" ("not manufactured") for the existing designation of "non épuré" ("not purified"), while the sulphur known as "épuré" ("purified") still remains in the category of dutiable articles. The following table shows in concise manner the change proposed, the rates being in francs (1 franc=19.3 cents) per 100 kilos (220 pounds):

Present Tariff.	Proposed Tariff.
Sulphur not purified, including ore and pyrites (under both general and minimum tariffs). *Free.*	Sulphur, not manufactured, or crude, including ore and pyrites, (under both general and minimum tariffs). *Free.*
Sulphur, triturated, purified, refined, or sublimated, per 100 kilos gross: (General tariff, 3 francs; minimum, 2.25 francs.	Sulphur, manufactured, sublimated, in flower, purified, refined, or triturated (per 100 kilos gross): General tariff, 5.25 francs; minimum, 3.50 francs.

The result of this proposed alteration would be to make Louisiana sulphur dutiable on arrival in France, as in the report of the Tariff Commission the process followed by the American producer in treating his sulphur, and known as the "Frasch process," is explained at length, with the object of differentiating it from that followed in the case of Sicilian sulphur, and bringing it within the category of "purified" sulphur. Inasmuch as the Italian product is not regarded as manufactured, this would leave the market open to the Italian firm, rendering practically impossible the exportation of the Louisiana product.

The American company has so far this year imported 13,000 tons of sulphur into France, and its proposed exportation for the year will be about 50,000 tons, a refinery now being in process of construction to handle this American export here.

FRANCO-CANADIAN TREATY RATIFIED.

The State Department received a dispatch April 2, from Consul-General Mason, which reads as follows:

Franco-Canadian treaty ratified yesterday by French Senate.

By this act the treaty concluded between the two countries in September, 1907, is to be put into effect. The treaty was promptly ratified by the Canadian parliament and by the French Chamber of Deputies, but was held up for a long time in the French Senate on account of certain objections. These objections have been removed by the conclusion of a supplementary convention signed at Paris January 23, 1909, providing that Canadian cattle fattened for butchering shall be excluded from the benefits of the minimum tariff in France.

Under this treaty France will be the first country to enjoy the benefits of the intermediate tariff in Canada, which until now has remained inoperative. A complete analysis of the treaty and of the concessions granted by the respective countries will shortly be published by the Bureau of Manufactures.

GERMANY.

TREATY WITH PORTUGAL AFFECTS PORT AND MADEIRA WINES.

Consul William T. Fee, of Bremen, reports as follows, under date of February 17, on one of the provisions of the proposed treaty with Portugal:

On November 30, 1908, a commercial treaty was signed by the representatives of the Kingdom of Portugal and the German Empire, subject to the approval of the Governments of the two contracting powers. Just when the matter will come up before the German Reichstag is not yet known.

This treaty contains some provision which, no doubt, will not only affects unfavorably the future sale of California port and Madeira wines, but will probably destroy all chances of future importations of these classes of wine into Germany.

It is guaranteed to Portugal by the treaty that in the future the names of "port" and "Madeira" shall be allowed in Germany to be given only to such wines that are made in the Douro district, or on the island of Madeira, and that are exported from the ports of Oporto and Funchal, respectively, accompanied by certificates of origin.

Hitherto the names of "port" and "Madeira" were used by the wine merchants of all nations to indicate the character of the wine regardless of its place of origin. This new treaty provision, if consummated, is likely to curtail the imports of this kind of wine into Germany from all other countries except Portugal, especially from the United States and Spain.

The wines produced in Germany are mostly what are called "dry wines," carrying a low percentage of alcohol, and are known to the world as "Rhine" and "Mosel" wines. Claret and that class of wines that go under the head of port, sherry, Madeira, Marsala, and other sweet wines, are largely imported into Germany. There is but little, if any, produced here.

The wine trade between the United States and Bremen, while not large, is yet important, and has been increasing until the late business crisis and the general lowering of prices of all French wines. In the year 1906 there were imported at Bremen from the United States 122,292 liters of American wine, valued at $13,803. During the same year there were exported through Bremen to the United States 53,358 liters, worth $17,349, mostly, it is presumed, of a superior quality of Rhine wine.

There is another section in the treaty, the carrying out of which would affect unfavorably the import of California wine into Germany. By a former treaty with Italy, Germany conceded for "Marsala" wine the reduced rate of 20 marks ($4.76) per 100 kilos (220.46 pounds). This wine contains more than 14 per cent in weight of alcohol, and otherwise would pay a duty of 30 marks ($7.14).

By this new treaty with Portugal, port and Madeira wines (from Portugal) are granted the same rate of duty (20 marks ($4.76) per 100 kilos) as has been granted to Italy for Marsala wine, although both wines contain more than 14 per cent in weight of alcohol. The duty thus levied will therefore be 20 marks instead of 30 marks for 100 kilos, or 5.7 cents instead of 8.6 cents per liter. This preference, if given to Portugal, will doubtless result in destroying the import trade of those two classes of wine into Germany from the United States.

ITALY.

IMPORTATION OF AMERICAN VINES FROM FRANCE PROHIBITED.

According to the decree of the Italian ministry of agriculture, industry, and commerce, dated January 25, 1909, and published in the Gazzetta Ufficiale of February 5, the importation of American vines or parts of vines from France is to be prohibited from April 1, 1909.

MOVABLE HOUSES FOR STRICKEN DISTRICT ADMITTED FREE OF DUTY.

By the decree of February 7, 1909, movable houses imported into Italy to be put up in the districts damaged by the earthquake, as well as building material imported by the Italian Government for the construction of such houses, are to be admitted free of duty up to June 30, 1909.

MEXICO.

REDUCED DUTY ON WHEAT CONTINUED.

By the decree of March 27, the reduced rate of 1 peso ($0.498) per 100 kilos gross (220 pounds) on wheat, which was put into effect by the decree of November 26, 1908, to remain in effect until April 30, is now continued in force until June 15. The rate on wheat prior to the issuing of the decree of November 26, 1908, was 3 pesos per 100 kilos gross.

NICARAGUA.

NEW CUSTOMS TARIFF RATES GREATLY ADVANCED.

Consul José de Olivares, in transmitting a copy of the new customs tariff of Nicaragua, comments on it as follows:

The new customs law of Nicaragua, although purporting to have been decreed on December 15, 1908, was not officially announced until January 28, 1909, on which date the decree was published in the "Gaceta Oficial."

The new tariff provides for an increase in the duties on imports that is almost prohibitive. The following shows the duties per kilo (2.2 pounds) as previously and at present charged on the principal imports from the United States:

Imports.	Old rate.		New rate.	
	Paper.	Gold.	Gold.	Paper.
	Pesos.	*Dollars.*	*Dollars.*	*Pesos.*
Flour	0.075	0.0086	0.02	0.18
Kerosene	.10	.011	.08	.72
Barbed wire	.05	.0055	.02	.18
Cotton prints	1.85	.205	.56	5.04
Muslins	.75	.086	.23	2.07
Leather	1.50	.166	.45	4.05
Shoes	5	.555	1.80	16.20

The new law stipulates that 25 per cent of the customs duties on the Atlantic coast be paid in gold importation bonds, of which an issue of $600,000 is provided for, and which, the decree states, are purchasable to the rate of 5 Nicaraguan pesos for every gold dollar. These new bonds, however, have already been bought by Nicaraguan speculators, and can be had only by paying for them at the current rate of exchange, namely 900 per cent.

The remaining 75 per cent of the duty is payable in gold, but silver soles are accepted for customs purposes at the rate of 2 soles to a gold dollar, although the current value of a sol is 38 cents. Vice-Consul Michael J. Clancy, writing under date of February 10, states that it is expected that this rate will soon be adopted for customs purposes.

The law provides that the new tariff shall take effect from the date of the publication of the decree, which was on January 28 last.

CHANGE IN METHOD OF PAYING CUSTOMS DUTIES.

Consul José de Olivares transmits from San Juan the Spanish text and translation of a circular recently issued by the minister of finance of Nicaragua to the custom-houses at the various seaports of the country. In commenting upon it the consul states:

This circular refers to the provisions of the new customs law fixing the rate of exchange in the settlement of import duties at 5 Nicaraguan pesos for every gold dollar, instead of requiring such duties to be paid at the current rate of exchange as provided by the original law, will result in a material decrease in the case of 75 per cent of the amount of all duties chargeable under the new tariff.

The remaining 25 per cent of all duties, however, while the circular does not so state, are payable in gold importation bonds, which may be purchased at a shade less than the prevalent rate of exchange, which at the present writing is 950 per cent.

DUTY-FREE ADMISSION OF IMPORTS FROM HONDURAS.

Chargé d'Affaires J. H. Gregory, jr., transmits a copy of a circular issued by the Nicaraguan Government on January 22, providing for the free admission of the natural and manufactured products of Honduras, pending the ratification of a treaty for the establishment of free trade between the two countries.

RUSSIA.

EFFECT OF CLOSING OF FREE PORT AT VLADIVOSTOK.

Supplementing the note on the closing of the free port at Vladivostok, published in Monthly Consular and Trade Reports for April, the following extract from the report of Consul Lester Maynard, dated February 4, is of interest, showing the probable effect of the change on American trade:

The duty on cotton-seed oil puts an end to the importation of American compound lard. At the present time pure Chinese lard is so cheap that it can compete in Vladivostok with the American compound, and as it will not be subject to duty it will easily drive American compound from the market. Bean oil is plentiful and cheap in North China, and as there will be no duty imposed upon it there has been some talk of manufacturing compounds of Chinese lard and bean oil. If this can be done successfully, it will take the place that American compound now holds, and can be sold at a very much lower price than the American compound is sold to-day, although the latter pays no duty at this time.

The field for other canned goods, although small at the present time, will share the fate of compound, as the tariff will make the prices prohibitive. Condensed milk will be exempt from duty, and the American brands that are firmly established will easily hold their own.

Agricultural implements will be exempt from duty, and this will be by far the most important item of the imports from the United States.

Fruit.—The tariff will so affect canned fruit that its sale will fall off. Fresh fruit, however, will be free, and as a small but growing business in this line is being carried on with the Pacific coast, there is every indication of its prospering. Dried fruits, to a great extent, will take the place the canned fruits now hold, simply because it will be possible to buy more for the money, and canned fruits not being a necessity will be looked upon as a luxury.

FREE ADMISSION OF CYANIDE OF POTASSIUM AND ZINC SHEETS FOR MINING.

According to the British Board of Trade Journal for February 18, the free admission of cyanide of potassium and zinc sheets for use in the Siberian and Ural gold and platinum mining industries is to be continued temporarily.

SALVADOR.

ADDITIONAL DUTIES ON WINES AND CANNED GOODS.

The State Department is in receipt of a telegram from the American chargé d'affaires at Salvador which reads as follows:

> President of Salvador has signed a decree, to take effect April 10, taxing imported liquors 50 cents; heavy wines and white wines, 25 cents; and red table wines, 5 cents per quart bottle; canned goods, 10 cents per kilo. This is in addition to customs duties.

No statement is made whether the cents represent Salvadorean or American currency.

EXPORT DUTIES ON COFFEE.

COMPARISON OF RATES LEVIED BY PRODUCING COUNTRIES.

The following statement shows the countries which impose export duties or taxes on coffee, the units for taxation, and rate. A column is added showing the equivalent of such tax in United States currency on 100 pounds of coffee.

Countries.	Unit.	Rate of duty.	
		Foreign currency.	U. S. equivalent, 100 pounds.
Belgian Congo	100 kilos	3 francs	$0.263
Brazil:			
Rio de Janeiro	Kilo	29.75 reis	.411
Minas Geraes	Ad valorem	8½ per cent	
São Paulo	Kilo	41.4 reis	.57
Ceylon	Cwt	0.10 rupee	.029
Dominican Republic	46 kilos	$0.15	.1485
Ecuador	Kilo	0.006 sucre	.11
French Congo	Ad valorem	5 per cent	
French Somali coast protectorate	100 kilos	1 franc	.0088
Guatemala	101 pounds	$1	.99
Haiti:			
Coffee	do	$3	2.97
Coffee, broken and residues of	do	$2.50	2.475
Nicaragua	100 pounds	$0.40	.40
Portuguese Possessions:			
Cape Verde Islands	Kilo	4 reis	.20
Congo	100 kilos	1$680	.825
San Thome and Principe—			
To Portuguese ports	Kilo	16 reis	.78
To foreign ports in foreign vessels	do	45 reis	2.21
To foreign ports in Portuguese vessels	do	30 reis	1.47
Timor	Picul	2$520	1.99
Salvador:			
From the ports of Libertad and Acatjutla	46 kilos	$0.40	.40
Surtax	do	0.265 peso[a]	.10
From the port of La Union	do	$0.40	.40
Surtax	do	0.51 peso[a]	.194

[a] Silver.

In addition to the tax imposed by the Brazilian States as given in the above statement, coffee exported from these states is subject to a further tax of 5 francs per bag of 60 kilos (73.1 cents per 100 pounds). According to the decree of September 12, 1908, an additional tax of 20 per cent ad valorem is to be levied on all coffee exported from the State of São Paulo in excess of 9,000,000 bags during the crop year commencing July 1, 1908; in excess of 9,500,000 bags during the crop year beginning July 1, 1909; and in excess of 10,000,000 bags during the succeeding crop years.

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WASHINGTON
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1909

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TRADE EXTENSION.

INFORMATION FOR EXPORTERS.

PORTUGAL.

HOW TO INCREASE THE SALES OF AMERICAN GOODS IN THE KINGDOM.

The following information concerning the trade of Portugal, the small American share, and how to increase it, is furnished by Consul-General Louis H. Aymé, of Lisbon:

Portugal imports yearly from $60,000,000 to $65,000,000 worth of merchandise, of which the United States furnishes about 6 per cent. Of the imports from the United States six articles—cotton, corn, petroleum, tobacco, wheat, and staves—account for all but $700,000 worth; the latter sum embracing nearly 300 articles, many of which fall into the category of raw materials or crude materials for use in manufacture. The United States, therefore, does practically an insignificant business with Portugal in manufactured products.

The flags of England, Germany, France, Italy, Denmark, Russia, Sweden, and Brazil and other South American countries are daily displayed on scores of vessels in the ports of Portugal; the American flag has not been seen in the harbor of Lisbon for many years, except on some rare yacht or rarer vessel of war. There is no regular, direct communication between the United States and Portugal; there is, it is true, semiregular communication, by freight steamer from Portugal to the United States. In addition to their numerous vessels, England and the Continental countries can and do ship to Portugal very large quantities of merchandise, in small but frequent shipments, by rail.

If all other conditions were equal this one question of transportation would seriously handicap American exporters.

KNOWLEDGE OF THE PORTUGUESE MARKET NECESSARY.

To gain a successful footing in any foreign market, an intimate knowledge of everything pertaining thereto is required. The exporter must know the wants, the opportunities, the business methods, and even the fancies of that market, things of which American manufacturers and exporters seem to be ignorant, as far as Portugal is concerned, it being no infrequent matter to receive at this office letters addressed to "Lisbon, Spain." There is but one real way in which this or any other foreign market can be conquered. The manufacturer or would-be exporter must personally, or by a competent representative, visit the market and thoroughly familiarize himself with its needs and conditions. It is not a visit of one or two weeks either that is necessary—such a visit can only give the most superficial knowledge of the market. Portugal has its own ways of doing business, its own system of credits and payments, its own apparatus for conducting business transactions, etc., with all of which Germany, England, and France are thoroughly familiar and ready to adopt them to gain or hold the trade. Full knowledge of these things can only be gained by long, persistent, careful, and interested study.

American manufacturers expect to win this market by a haphazard bombardment of catalogues in English, French, or Spanish, usually without prices, usually without particulars of dimensions, weights, etc., or by flooding the mail of an already overworked consul by requests for lists of names of "persons likely to do business" in the writer's particular line, which it is impossible for him to supply in a city of the dimensions of Lisbon, for instance. If the American manufacturer would send to the consular officer his catalogues, price lists, and discount sheets; would give the metric equivalents for all weights and measures; would give, not the price at the factory, nor f. o. b. Chicago or New York, but c. i. f. Lisbon; would, further, not insist on cash with order or against documents; would express his willingness to take a reasonable share of the risk on the first invoice or in the sending of samples and also make reasonable modifications in his goods to meet the special requirements of the market; if then the consular officer could advertise in the local newspapers the fact that he had such inquiries and was ready and willing to show and explain them to any one interested, it is very probable that any one "likely to do business" in that line would call at the consulate and such caller would probably write directly to the American manufacturer giving his business and bank references. It is absolutely impossible for a consular officer attending to the duties of his office to go running about in a city of 500,000 inhabitants, and extending over 32 square miles of territory, to hunt up persons "likely to do business" in scores of different lines. The utmost such an officer can do is to indicate broad, general lines in which there is a possibility for the American manufacturer to enter and compete. He can not be employed in pushing individual enterprises.

LACK OF PERSISTENCY IN BUILDING UP TRADE—TARIFF DUTIES.

Too frequently the attempt of American manufacturers to enter the foreign market is due to a temporary dullness in the home market or to having on hand a surplus stock which it is wished to work off. If the home market improves, or the surplus stock is disposed of, such manufacturers at once lose interest in the foreign market, and drop it. What chance have such against the Englishman or German or other foreign competitor, who is constantly and persistently working up trade?

If initial orders are secured here, the American manufacturer is not sufficiently careful, in many cases, to furnish goods precisely up to sample. He permits himself the liberty of substituting "something just as good," and in packing the goods displays a carelessness which is incomprehensible. The American manufacturer believes, and very properly, so far as the home market is concerned, that his methods are the best in the world, but the foreigner to whom he wishes to sell goods has an equally well-founded belief in the value and importance of his own ideas and methods; he knows just what he can sell to his customers; he knows the custom-house requirements of his country in the matter of packing, and his requirements in these directions should be rigidly complied with.

The Portuguese tariff duties imposed on foreign manufactures are very high. For example, the duties on cotton and linen textiles are from two to three times as high as in any other European country; the duties on furniture and manufactures of iron are also practically prohibitive. Notwithstanding this "prohibitive tariff," if the obstacles to an enlarged trade with Portugal which Americans can remove were removed, they would be on fairly even terms with their competitors, as there is little doubt but that, in the long run, the excellence of American manufactures would give us the greatest part of the trade in nearly all lines.

GERMANY.

EXPERIMENT SHOWS POPULARITY OF AMERICAN BARBER CHAIRS.

Previous consular reports have been made on the absence of the modern American barber chairs from German tonsorial shops. Deputy Consul-General Simon Hanauer, of Frankfort, has also investigated the subject and writes:

Visits to numerous barber shops failed to reveal chairs of American make, except in one where five chairs had been introduced by a German who had lived in New York for nine years. This man, however, had recently sold out and was now with a perfumery manufactory. Returning to Frankfort on the Main, in 1894, with the intention of opening an "American shaving and hairdressing saloon" he purchased from a company in Chicago three patent plush upholstered barber's armchairs, for which he paid $45 each. These American-patented chairs, as also the American equipment of the shop, caused lively attention and general encomium from the Frankfort public, so much so that the new saloon flourished and two additional chairs were imported from the Chicago manufactory. The proprietor also obtained the manufacturer's agency for the sale of their chairs and barber's furniture in Germany. He makes the following statement:

> It would have been quite easy to introduce and sell these chairs, which had become so popular in Frankfort, in other cities throughout Germany, and a large and profitable business could thus have been secured, had it not been for the short-sightedness of the Chicago firm, who would only fill orders after having first received the money. I had spent a considerable part of my rather limited capital in making trips to show off the chairs by photographs and illustrated catalogues, also paid for advertising them in the leading German journal for the barber's trade. As I lacked the means to lay in stock, and the barbers in general declined paying before the goods were delivered, few chairs were disposed of. I sold in all 20 of the company's patent shaving armchairs of two styles, the one costing $45, the other $75 each. A barbers' saloon in the most fashionable hotel of Frankfort, besides purchasing a number of the company's chairs also ordered a mirror case in three parts at $164 made by the same firm. Upon arrival at the Frankfort customs-house the marble top plate of the mirror case was found to be broken, due to careless packing. I had to have a new top plate made here which cost me fully as much as my commission (25 per cent) on that sale amounted to; upon claiming compensation for the cost from the Chicago firm they refused to make any allowance whatsoever.
>
> Finding it useless to attempt to do business in these American productions under these adverse conditions, I proposed to the Chicago house to send me

two of the chairs, which I would exhibit at the World's Industrial Exposition to be held at Duesseldorf, where buyers were expected from all parts of the globe. The firm replied that they took no interest in this exposition as they were busy working on home orders. Suggestions to make use of other favorable opportunities to exhibit and introduce their goods were also declined.

GOOD MARKET POSSIBLE FOR BARBERS' SUPPLIES.

I am confident that if an able firm in the United States were to avail themselves of the suggestions and display some liberality in seconding the efforts of an energetic agent in Germany, a big trade in American-made barber's furniture and implements could be established in this country.

The furniture should not be shipped whole and packed in crates as was the case when my orders were filled, but the goods ought to be shipped in the knock-down mode and be finished and put together at the port of arrival. In this way heavy freight rates and high customs charges could be avoided, and the goods be offered for sale at 33 to 40 per cent less. Barbers, as a rule, are limited in capital, yet many of them could be induced to purchase the American chairs and fittings if allowed to pay for them by installments. This method is quite safe for the seller, as the law gives him a mortgage on the property until final payment is made. Machines of various kinds and all sorts of merchandise are extensively sold in Germany on that basis, which plan is not new, but has been in successful operation for many years past. Germany would be a paying and large market for the sale of hundreds of American-manufactured articles, implements, fittings, etc., if businesslike steps were taken to bring them to the attention of the dealer or consumer. I offer my services as agent for introducing such, and am ready to enter into correspondence with American firms for that purpose. [His address may be obtained from the Bureau of Manufactures.]

What has been said about the selling chances of American barbers' utensils and other products in Germany applies with equal force to other European countries as fruitful fields for American energy and ability. There are about 300 barber shops in the city of Frankfort alone. As many of the wealthy men in Germany and other European countries are shaved at their own residences, either by their valets or by professional barbers, many hundreds of American chairs could be sold to private parties if the latter would become aware of the merits of the luxurious American shaving chair. The financial responsibility of those who desire to act as agents can easily be ascertained from American mercantile agencies.

UNITED KINGDOM.

BRITISH GOVERNMENT WILL HELP EXHIBIT BRITISH GOODS.

Consul-General Robert J. Wynne, of London, reports that national advertisement and aid by the Government is the latest step of the Government Board of Trade for pushing the sale of British goods abroad. He explains one of the effective methods as follows:

Six months ago the British Board of Trade established an exhibitions branch. Under the presidency of the Prince of Wales, the Royal Commission concerning coming exhibitions at Brussels, Rome, and Turin passed certain resolutions, which were carried into effect. From the new offices of the exhibitions branch 20,000 letter packets were dispatched to the manufacturers of the United Kingdom, giving the fullest information as to the conditions of the exhibitions, and offering facilities on the most advantageous terms.

Aided by a treasury grant and by the saving which results from making early contracts in gross, the British Board of Trade offers the manufacturer a complete stand at practically the same price he would have had to pay for the bare ground space if he were making his own arrangements. Except for the cost of transportation and the salary and expenses of his representatives, practically everything is covered by the first charge. He delivers his exhibit at the gates. It is received by laborers provided by the Board of Trade. They put the goods in the effectively decorated stand. The Government defrays half the cost of the steam, gas, or electricity necessary to run machinery.

In small details, as in large, the convenience of the exhibitor has been provided for. A special catalogue of the British section will be printed in English and in French. There will be a business room, attended by interpreters, who speak French, German, Italian, and English.

PROMINENT SUPPORT.

The Prince of Wales is the president of the commission, Lord Lytton chairman, and Sir Swire Smith Keighley vice-chairman. Included in the members are leading representatives of railways, shipbuilding, iron, cotton, wool, agriculture, banking, chemical manufactures, boots, building, furniture, confectionery, millinery, motor cars, cutlery, pottery, linen, and mining. The director of the new exhibition branch of the Board of Trade is Mr. U. F. Wintour, and associated with him, as honorary art director, is Sir Isidore Spielmann.

The London Times, commenting on this movement by the Government, says:

> The importance of this new departure needs hardly to be emphasized. It marks a further stage in the abandonment of that policy of laissez faire, which may have been successful enough in the days when this country (Great Britain) was first in all the great manufacturing industries and the other countries nowhere. In those days it seemed as if, by a peculiarly merciful dispensation, Providence had ordained that the rest of the world should produce and send us the raw material required for our industries, while to us was reserved the monopoly of converting them into finished products and selling them back at a profit to the people who had kindly provided them for our benefit. Those halcyon days have unfortunately long since passed away. Other nations have learned to compete with us, and not infrequently to surpass us, in many of the most important branches of industry, not so much, we believe, through any falling off of workmanlike skill or of inventive capacity in this country, but mainly through more scientific methods, through better organization, and through a more systematic coordination of their national forces, carefully fostered and directed by the State.

TURKEY.

PRESENT OPPORTUNITIES FOR TRADE AND INVESTMENT OF CAPITAL.

Consul Jesse B. Jackson, of Aleppo, calls the attention of American manufacturers and exporters to the removal of certain restrictions against imports and the demand for construction material of various kinds in that part of the Turkish Empire. He says:

Too much stress can not be laid on the announcement of the removal by Turkish authorities of the restrictions against the importation of certain articles of manufacture, including all kinds of electrical appliances and attachments, typewriters, printing presses, guns, revolvers, gasoline, books, and literature. Trade in these articles is commencing on an unprecedented scale. There is an agitation for the establishment of telephones throughout the Empire, as well as for the construction of railways, tramways, electric lights, and various other enterprises. Recently an enthusiastic meeting was held in this city, attended by the more wealthy and influential men of the community, at which the construction of a railway between Aleppo and the port of Alexandretta was discussed. Petitions were sent to the minister of public works and to Parliament urging a new concession therefor in the event the line is not immediately begun by the German-Bagdad company now holding a provisory concession.

This extraordinary activity indicates that soon the numerous cities and towns, also the country districts, of this part of Turkey will be put into closer communication. Tramways will traverse the larger cities and many suburban lines will be built. Electric lighting is being talked of for the important trade centers, and water-works will soon be provided for the cities and towns.

EXPORTERS SHOULD HAVE SALESMEN ON THE GROUND.

There will be demand for the various necessary articles of construction, which will be supplied by those whose representatives are on the ground and awake to the opportunities of the occasion. A large trade in American products can be secured and immense sums of money can find investment in the extensive improvements soon to be made if proper attention is given to the matter.

The construction of public highways, paved streets, bridges, etc., will be begun at an early date in various localities, the cost of which it is impossible to estimate. The Turks realize that it is essential to work with redoubled energy to rejuvenate their country and acquire for themselves the comforts and improvements of modern ingenuity and invention. It therefore rests with the American financiers, manufacturers, and exporters whether they will remain indifferent and permit the energetic Europeans to reap the rich harvest now ripening in this unexploited country abounding in natural resources. [A list of dealers and commission houses of Aleppo consular district is on file and may be copied at the Bureau of Manufactures.]

CHINA.

AMERICAN INTERESTS SHOULD BE GUARDED BY AMERICAN AGENTS.

An American resident in the Far East who has been looking into commercial conditions in China furnishes information confirmatory of recommendations frequently made by American consular officers as to the necessity for establishing branch houses in charge of Americans to promote and safeguard American trade with China. The gentleman alluded to writes:

The importation of goods into Hongkong and into South China, Hongkong constituting the market and distributing point for the treaty ports from Pakhoi to Foochow, is controlled by English and German houses. The former are nearly all firms of long standing and wide experience in the trade, having heavy capital at their back. The latter are newer but energetic, and are also backed heavily with home capital. All of these firms have a natural bias toward goods produced in their own home countries, in addition to which must be taken into account the capital invested in these China houses by manufacturers and others in England and Germany, resulting in close affiliations and control. The result of this is that at equal, and oftentimes at a higher price, the English house will push English goods and the German house will push German goods. They are all ready and willing to accept exclusive agencies for American manufacturers, but rarely is this done with the idea of pushing American goods, the intention being to control their sale and prevent them from being pushed in the Chinese markets. While the larger export and import houses maintain offices in the United States, these are more for the sale of Chinese products in America than for the exploitation of American products in China, and they have the added function of controlling all of the steamship connections into Hongkong from the United States, with the exception of the Pacific Mail Line from San Francisco and the Nippon Yusen Kaisha from Seattle.

HOW AMERICAN INTERESTS ARE SACRIFICED.

As a concrete illustration of how American interests suffer for lack of proper representation, I would cite an instance that came to my notice a few days ago. The import of playing cards into the treaty ports is not a large item, but a German firm here recently secured the agency of an American playing-card manufacturer. They were tempted to do this on account of the low prices quoted on American-made cards, and they secured one consignment not long ago. Six dozen packs of this consignment were sent directly to Germany with a statement of the prices for which they could be obtained from American manufacturers and the deliveries that could be made. The German manufacturer was informed that if he could come within a reasonable limit of the American price, the local house would be glad to take up and push his product. While the conditions outlined above may not be true of every house with regard to every line of goods that might be offered to them, nevertheless it is so generally true and, when one considers the circumstances, such a natural course of procedure, that the danger of the indiscriminate use of a mere list of names of resident merchants will be readily seen.

AMERICAN AGENCIES NEEDED.

There are two American export and import houses in Hongkong, neither one of which does a large business as compared with the older English and German houses. One of these American houses maintains an office in Seattle. The other is entirely local, but has American connections. All the other American business interests here are local offices of American houses maintained on the ground for the sale of their own goods. The first essential to the extension of American trade of anything like a permanent nature in this district (Hongkong) is the establishment of American agencies to handle American goods. American business men at home have as a rule always strongly emphasized the principle that the man on the ground gets the business, and this applies here just as much as in the United States. The flour, kerosene-oil, and sewing-machine people have come out here, invested money, and stayed by the trade, with the result that they have taught the Chinese to use these articles, which are all luxuries in China, and have built up a large and lucrative business.

BRITISH INDIA.

OPPORTUNITIES FOR INCREASED SALES OF AMERICAN GOODS IN BURMA.

Reporting as follows upon the Burmese market and its possibilities, Consul E. A. Wakefield, of Rangoon, says that American products should occupy a more important place in its imports than they do at present:

The province of Burma is at present important chiefly from an agricultural standpoint, with rice as the great staple of production. The oil fields are of great and constantly growing importance, with good prospects of rapid mineral development in Upper Burma. Coal has been discovered in various places, with good prospect of successful development of various fields in the next three or four years. The teak trade is a very important factor in the local as well as in the export trade. Gold is found in paying quantities near the headwaters of the Irrawaddy. Silver, lead, copper, tin, iron, rubies, tourmalines, jade, amber, and salt are found in various localities, and pearls near the islands off the coast. The climate is so varied that products of the tropical and temperate zones are successfully grown.

IMPORTS AND BY WHOM CONTROLLED.

Nearly all manufactures used in the province and considerable foodstuffs are imported. The imports of merchandise into Burma in 1908 amounted to $36,000,000, of which the United States is credited with $2,850,000. This does not really represent the correct value of American goods sold in Burma, as numerous articles of American production are imported from England, Calcutta, Singapore, and Hongkong.

There are various reasons why American products are at a disadvantage in competition with some other foreign products. The United Kingdom supplies over $20,000,000 of the imports, or, roughly, 55 per cent. Most of the business houses importing direct are owned or controlled by Englishmen, while many of the native firms have well-established business relations with influential English commercial houses.

The connecting steamship lines are principally English, with the additional advantage of the freight rate across the Atlantic, which must be met by American exporters from Atlantic coast ports.

English firms give from three to six months credit, and occasionally easier terms than these are granted. The British India Steam Navigation Company, Irrawaddy Flotilla Company, Burma Oil Company, and Burma Railways Company are all controlled by English capital and officials, and these fleets are potent factors in developing the country and its imports.

Germany, Italy, and Japan have business houses established here, and naturally they favor and prefer their own national products.

AMERICAN SALES METHODS AT FAULT.

American salesmen frequently represent several firms, and some carry too varied a line of samples. As a result the different lines are not given sufficient detailed attention to put them on a proper footing as established lines of imports, and the methods of American packing are decidedly faulty in comparison with those used in imports into Burma from other countries. A slight improvement in this respect has been recently noticed, but more careful attention to this detail is necessary. As freight charges are based upon the cubic feet occupied, packages should be as compact as possible, while everything boxed should be bound with iron straps placed where strength is most necessary. It is necessary to give the strictest attention to this matter of packing in order to remove the prejudice which undoubtedly exists, caused by careless preparation and packing of former shipments. All merchandise is subject to pretty rough usage in loading, transshipping, and unloading, so that packing should be as firm as possible.

METHODS FOR INCREASING AMERICAN TRADE.

The best possible method of building up American trade would be the establishing of an American wholesale depot to supply and keep in stock as many of the leading products as it might be possible to give attention to. There are of course many arguments which might be advanced against this method, but taking into consideration the necessity of knowing the financial standing of dealers and the frequent delays in delivery, I feel confident that this plan would succeed. From three or four such depots it might be possible to develop a much greater trade in India and the Far East. The one prime essential is capable and experienced management, with a thorough knowledge of Eastern business conditions.

There are no really wholesale houses here, as we understand the term, although several importing houses keep on hand small stocks of some particular products. Most of the business is done by placing the order as received from the retailer.

In ordering by this method a long delay ensues which could be avoided if goods were stocked here. In many instances it might be to the interest of commercial travelers to engage Burmese and Chinese brokers to assist them in selling goods to firms of their respective nationalities. A small salary should be paid, with a small commission on sales. The salary need not be more than $15 to $25 per month, and the commission not more than 1 per cent. The leading life insurance companies employ these brokers very successfully, and it seems feasible to employ this method along other lines. The Chinese are very prominent in the commercial life of Burma, are favorably disposed toward American products, and are usually energetic workers.

Commercial travelers coming to the East ought to be men of exemplary habits and patience, with capacity for hard work under trying conditions. A reasonable success should attend the efforts of such men if they handle anything for which a market exists.

DOMINICAN REPUBLIC.

MANY LINES OF AMERICAN-MADE CLOTHING MIGHT BE SOLD.

A report from Consul Ralph J. Totten, at Puerto Plata, states that no ready-made clothing for men and boys is imported into that part of the Dominican Republic, which leads him to suggest such an American trade opportunity:

The well-to-do wear tailor-made clothing and the poorer classes have their clothes made at home or by a seamstress. The Dominican, as a rule, is well dressed. For the daytime, two-piece suits of linen or cotton cloth are worn. These are white, linen color, or of light-colored checks and stripes of wash fabrics. Made-to-order suits of this class cost $7 to $15. In the evening, dark cassimeres of light and medium weight are worn. These cost $20 to $40 per suit, made to order.

Practically all materials for men's and boys' clothing are imported from England. All-wool cloths pay a duty of 74 cents to $1.50 per yard and the wash fabrics 8 cents to 30 cents per yard.

Laborers and country people wear clothing of brown drill or blue denim, made up in a manner similar to the American overall suit. These materials cost locally from 25 to 40 cents per yard, which makes a suit cost $2 to $3.

It would seem that cheaper grades of ready-made clothing could be sold in this country to advantage. Light-weight cassimere and serge two-piece suits which can be bought in the United States for $6 to $10 would pay a duty of $2.22 and could be retailed here at $12 to $15 per suit. Cotton duck and drill garments pay a duty of $11.07 per dozen two-piece suits. If these could be bought in the United States so as to retail here at $5 to $6 per suit, there would be a ready sale.

TROUSERS, SHIRTS, ETC.

Ready-made wash trousers of drill or duck, on which the duty is $4.29 per dozen, would prove especially popular, as the coats always outlast the trousers.

For the laborer, the American jumper and overall would take the place of the homemade articles, if they could be put on the market at a price anywhere near the present cost. A well-made overall and jacket, made from 240 or 360 denim, costing in the United States $3.75 or $4 per dozen, would pay a duty of $2.95 per dozen and could retail here at 75 cents per garment.

Ordinary cotton work shirts pay a duty of $2.95 per dozen. The cheaper grades made in the United States to job at $2.25 per dozen could be retailed here at 60 cents each. The homemade shirts cost about 75 cents for material and labor and can not be as satisfactory as a good custom-made article.

The only way to introduce these or other new lines is to send a salesman who speaks the Spanish language and who understands tropical conditions. Once the goods were established, it would probably be unnecessary to canvass the territory regularly and would no doubt be of lasting benefit to American exporters.

[Statistics show some progress in the exportation of cotton wearing apparel from the United States to Santo Domingo. The amount in the fiscal year 1905 was $8,216; in 1906, $15,092; and in 1908, $26,041. The exports of cotton knit goods are included in these amounts. As a separate item, the knit goods figured at $5,165 in 1908. The sale of American-made wearing apparel is increasing in many foreign countries, having advanced from $2,700,420 in 1904 to $4,701,479 in 1908. The West Indies have been excellent markets, Cuba alone having taken last year $74,424 of American knit goods and $247,940 worth of other American-made cotton apparel.—B. of M.]

TRADE WITH MOROCCO.

LATENT RESOURCES AND PRIMITIVE CONDITIONS OF THE PEOPLE.

The possible lines of American trade with Morocco are indicated by the following review of conditions in that empire by Special Agent Julien L. Brodé, who writes from Tangier:

Economically considered, Morocco has a fine future and is capable of much development. The methods of transportation, agriculture, and manufacture are still primitive. The only mode of travel and communication between the inland towns and those of the coast is by donkey, mule, horse, or camel. Vehicles are not used. Many of the streets of Tangier are too narrow to allow passage for a wagon or carriage. Most of the freight is transported by donkeys. Farming is done in a very simple manner. The plow largely in use is merely a forked stick. Modern methods of agriculture, with their many labor-saving machines, are not employed here. The ground is merely scratched and the seed sown broadcast. After planting there is little cultivation. The land as a rule is fertile and capable of raising two or three crops a year. Wheat, barley, oranges, lemons, dates, figs, and almost all vegetables are easily grown. Manufacturing is mostly by hand, with the aid of a few crude mechanical devices. The artisans, however, are skillful, and, considering the simple tools at their disposal, turn out very good work.

REQUIREMENTS OF THE INHABITANTS.

Morocco is inhabited almost entirely by Moors. No census has been taken of Tangier, but from an average of the estimates furnished by old European residents, there are approximately 65,000 people here. The Moors, considering the climate, wear an unusually large amount of clothing. The fez, almost universally worn as a covering for the head, is made of a heavy woolen cloth. The natives may, if they wish, adopt the European form of dress, but are required to retain the fez. There are no correct figures obtainable on the quantity of these hats imported, but they are supplied almost entirely by Austria-Hungary. The merchants buy them at about $3 per dozen and retail them at about 40 cents each. The married Moors wear a white cotton cloth around the fez, which is about 5 yards long. Those Moors who have been to Mecca can wear a red cloth instead of white. The outer garment is a loose-fitting robe, coming down just below the knees. It has a hood and baggy sleeves and in appearance is not unlike a bath robe. This garment is usually made of wool, although many of the poorer people and the women and children wear robes made of cotton goods. Under the outer coat is a close-fitting jacket made of wool, and loose, baggy trousers, made of cotton goods. Under the jacket is worn a woolen shirt, and under this a cotton shirt, both long. In summer the woolen shirt is discarded. Some of the Moors wear woolen stockings, others wear socks, and a few wear European shoes. The vast majority go barelegged and wear leathern slippers, which look very much like bath slippers, no heel guards being used. The slippers are made in Morocco and are sold very reasonably, 75 cents to $1.25 a pair. Germany, Austria-Hungary, and England supply the bulk of the woolen goods, and England nearly all of the cotton goods.

OILS FOR COOKING AND FOR ILLUMINATING PURPOSES.

The people eat no hog fat, and in cooking make liberal use of vegetable oils. The most popular of these is olive oil, the best grade of which commands a high price. The lower grades are selling at higher prices than are obtained for cotton-seed oil. They have a strong flavor, to remove which, when cooking with them, the Moors use some article such as a piece of a potato. The samples of cotton-seed oil shown the writer were off summer yellow, fully 1 per cent off prime, but looked fine in comparison with the lower grades of olive oil. The dealers heat the cotton-seed oil to clear and make it more liquid. The large dealers say that some of the Moorish shopkeepers are familiar with cotton-seed oil, but most of it goes to the consumers under some other name, or is mixed with olive oil. They further say that the Moor is so conservative it is difficult to get him to buy anything new and that to get him to use cotton-seed oil, as such, he must gradually be educated to it. However, cotton-seed oil seems to be taking hold in Tangier. Those dealers whom the writer saw handled a total of about 2,400 barrels last year. This year, on account of the poor olive crop, they anticipate handling more. The olive crop can not be depended upon to supply the needs, and it is therefore necessary to import other edible oils. Nearly all of the cotton-seed oil sold here comes from England and France, England supplying most of it. This is mainly due to the fact that the United States has no direct steamship connection with Tangier.

Among people who are confined to the use of vegetable oils, cotton-seed oil could be successfully exploited. It is better and cheaper than much of the oil they are using, and it is a question of educating them to take hold of cotton-seed oil under its own name.

By persistent push, a large American firm is now selling a great deal of coal oil in Morocco. It has established a branch here and has agents in important places. The writer was told by one of the latter of the uphill fight they had to get their article first introduced. They are now doing considerable business.

SUGAR, COTTON GOODS, HARDWARE, ETC.

There is considerable sugar sold in Morocco. Most of it comes from France. The popular package is the hard cone-shaped loaf, which is sold at about $8.50 per 100 kilos (220 pounds), c. i. f. Tangier. Sugar in bulk is shipped in bags weighing 70 kilos each. The head of one firm in Tangier told the writer that last year he handled over $2,000,000 worth of sugar. The sugar is very white and seems to be a good refined grade. A market might be created here for American yellow clarified sugar, if it could be introduced at a sufficiently low price to offset the difference in quality. The Moors seem to be fond of sweets, and no sugar is made here.

The cotton goods shipped into Morocco come almost altogether from Manchester, England. The trade is growing and is well worth looking into. The climate permits the wearing of cotton clothes during most of the year. Hardware, building materials, candles, cement, groceries, lumber, and flour are other articles American merchants and manufacturers should be able to supply in competition with those of other nations. Most of the houses are built of plaster and tilings. Some tarred-roofing material is also finding its way into this market. This comes from the United States, but is shipped to Spain and reshipped here. American hams, hardware, flour, etc., come through other countries.

IMPORTS AND EXPORTS.

The total imports into Morocco, as near as can be estimated from figures available, are about $15,000,000 anually. The bulk of this sum is divided among England, France, and Germany, in the order named. These countries are keen bidders for this business and are energetic in establishing footholds in Morocco. They have direct steamship connections, agents on the ground pushing their goods, and drummers who come regularly to display samples and study the needs and the wants of the people. Illustrated catalogues in English are poor salesmen in comparison with Spanish-speaking drummers having the actual goods to show. There are French, English, and German newspapers and French and German schools in Tangier.

The chief annual imports and exports of the principal ports of Morocco are given here in the best form obtainable. These figures are, however, to be considered only as estimates, as it is impossible to gather authentic data, no port records, it seems, being kept. The figures used are taken from reports issued by other countries, from what figures were available at the American consulate, and from data obtained from different merchants in Tangier. The duty on all imports is straight 12½ per cent ad valorem.

The following table shows the chief imports of Morocco and the approximate annual quantity of each:

Articles.	Tangier.	Larache.	Rabat.	Casa Blanca.	Masagan.	Safi.	Mogador.	Total.	Percentage of various countries.
Cotton goods.cwt..	14,000	18,000	32,000	112,000	303,000	108,000	90,000	667,000	England 87½, France 50, Belgium 20, Austria 25.
Sugar.......do....	40,000	59,000	89,000	112,000	40,000	91,000	101,000	532,000	
Candles.....do....	7,000	22,000	18,000	12,000	5,000	8,000	9,000	81,000	England 100.
Building material, lime, cement, etc., cwt.	100,000	5,000						105,000	France 60, Germany 30, England 10.
Flour........cwt..	100,000	30,000	24,000					154,000	France 75, Italy 20.
Woolen goods, cwt.	25,000		7,000	10,000				42,000	Germany and Austria-Hungary 50, England 35, France 10.
Cotton-seed oil, galls.	159,000							159,000	France 20, England 70.
Petroleum ..galls..	200,000							200,000	United States of America 100.
Light hardware, cwt.	45,000	12,000	18,000	10,000	5,000	5,000	12,000	107,000	England 33, France 25, Germany 33, Spain 8.
Groceries.....cwt..	20,000							20,000	England 80, France 20.
Bricks and tiles, tons.	60,000							60,000	France 60, Spain 25.
Coal.........tons..	4,000							4.000	England 100.
Wines and spirits, cwt.	275,000							275,000	France 40, Spain 30, Germany and England 20.

LEADING EXPORTS OF MOROCCO.

Articles.	Tangier.	Larache.	Rabat.	Casa Blanca	Mazagan.	Safi.	Mogador.	Total.	Whence exported.[a]
Almonds.........cwt..					36,000	9,000	115,000	160,000	Germany, England, France, Italy.
Sheep skins......do....	2,000			27,000			2,500	31,500	England, France, Germany.
Goat skins.......do....	8,000	4,000	1,500	20,000	2,000	6,000	68,000	109,500	England, France, Germany.
Beeswax.........do....	1,000	1,000		2,000	6,000		20,000	30,000	Germany, England, France.
Ox hides..........No..	12,000	2,000					2,000	16,000	France.
Canary seed......cwt..	5,500	23,000		2,000		20,000		50,500	Germany.
Fenugreek.......do...				10,000		8,000		18,000	England, Germany, United States.
Gums...........do...						2,000	2,000	4,000	England, Germany.
Wool............do....	3,000	6,000	1,500	38,000		16,000	30,000	94,500	England, France, Germany.
Coriander seed...do...				6,000				6,000	Germany, England, United States.

[a] Countries share in the order in which they are named.

The exportation of sheepskins from Tangier to the United States has gradually decreased from $55,624, for the last quarter of 1907, to practically nothing. The United States gets these skins now through French and English merchants. This business could be done direct if there were steamship connections, but the freight is cheaper by way of England and France than via Gibraltar, and therefore French and English merchants have the advantage.

LAND VALUES RISING—MINING PROSPECTS—FISHERIES.

Most of the land is very rich, but only about 20 per cent of the arable land is now being cultivated. Of some things three crops a year can be raised and of many others two crops a year. By treaty, foreigners have the right to buy land anywhere in Morocco provided the purchase has the sanction of the local governor. This has been uncertain and possibly hard to obtain, but by the treaty of Algeciras, 1905, foreigners have the right to buy land within 10 miles of every seaport. Such purchases are not to be taxed by the Sultan. Town taxes can be imposed by the civic authorities for sanitary purposes, maintenance of the streets, etc.

Around Tangier there has been considerable speculation in property since the treaty of Algeciras. European syndicates, mostly French and German, have bought up considerable property, and land values are much higher than formerly. As a general estimate, it may be said that desirable land within about 5 miles of Tangier can be bought at $50 per hectare (1 hectare=2.47 acres). Large land purchases by foreign companies, that have carefully investigated conditions, indicate that they have considerable confidence in the future of Morocco and of this port. It seems reasonably certain that Tangier is destined to be a large port, doing an immense business with the interior and with foreign countries.

In the Atlas Mountains and in the southwestern part of the State are valuable deposits of copper, antimony, and silver, and some gold. The mines are being worked very crudely, the natives not being familiar with modern methods. The metal is mined to supply local needs.

Brass and silverware are seen in abundance in the shops, and articles made of these can be had at very reasonable prices. So much of the country is unexplored that the extent of the mineral wealth is not known. Last January a syndicate was formed, composed of 45 per cent French capital, 15 per cent English, and 15 per cent German, the remainder being divided among other countries, to exploit mining property in Morocco. The syndicate is now petitioning the Sultan to grant regulations allowing such exploitations. So far as could be learned the company has not yet made purchases.

Along the coast sardines are abundant. At Tangier there is a sardine factory, the French Compagnie Coloniale de Peche et de Commerce. This is a branch of a French house at Nantes. The factory runs about 9 months a year and puts out about 100 cases of sardines a day. Each case contains 100 boxes. The sardines are all put up in olive oil and are very fine in appearance. Shipments have been made to the United States. The price usually obtained is about 12 cents per box. The fish cost between 40 cents and $2 per 1,000, according to market conditions.

PUBLIC IMPROVEMENTS—CLIMATIC CONDITIONS.

Two years ago a law was passed to set aside 2½ per cent of the port receipts for improvements. A committee has been appointed to consider what improvements should be made with the money now accrued, amounting to between $250,000 and $500,000, and an engineer is now working on the specifications. Bids on these specifications will be asked for in the near future. It has been the rule in the past to allow only 60 days for the bids to be received after they have been solicited, but an effort will be made to have the time extended to 100 days, thus affording American contractors interested in the proposition more time to investigate. It is not yet known just what these specifications will call for, but it is thought that they will include, among other things, a road to Fez, light-houses, and coast and harbor improvements. The construction companies and contractors interested in this work should take the matter up immediately with the American consul at Tangier. Improvements will be continued in Morocco, and those companies that first become familiar with construction work here will be able to bid more intelligently, and doubtless more closely, on future work. When modern methods gain a foothold in Morocco, a vast amount of construction work will be undertaken. At present there is not a railroad in the country and the harbors are badly in need of improvement. Labor can be had in abundance at the rate of 25 to 40 cents per day. The men furnish their own food.

The climate of Morocco is ideal. Temperatures range from about 65 to 90 degrees, the usual winter temperature being about 70 and the summer about 80 to 85 degrees. In the mountains and in the low, sandy plains there is a wider range. Many Europeans live in Tangier on account of its fine climate.

There are two rivers in Morocco which could be made navigable without heavy expense. They are the Ouab Sabou, which runs within a mile of Fez, the capital of Morocco and its chief city, and the Oum Er Bia, which traverses a wide and fertile territory and has an outlet near the port of Mazahan.

TRADE RELATIONS—AGENTS' REQUIREMENTS.

The United States is hardly represented in this market. There is, however, among the merchants of Tangier a very friendly feeling toward American merchants and manufacturers, and American goods are looked upon with favor. They express themselves as being entirely willing to give American merchants a liberal share of their business. They state that it is just a question of the best article at the least price, and if American shippers can meet the conditions they are ready to do business. They all claim that the greatest drawback in trading with the United States is the lack of direct steamship connection. Tangier is located just southwest of Gibraltar, across the straits, and steamers plying between New York and the Mediterranean would have to go out of their course hardly 10 miles to make this port. England, France, Germany, and Spain all have several lines that come regularly to Tangier. One of the leading merchants here has promised to have all the principal merchants sign a petition and present it to the managers of the Anchor Line, asking that their ships make stops at Tangier on their way to and from New York and the Mediterranean ports. With this chief obstacle out of the way, an increasing and profitable trade is bound to result between the United States and Morocco.

Considering the fact that Morocco is inhabited by a peculiar people, it is best to have agents here who can study their needs, customs, prejudices, and manner of doing business. Such agents can be procured here to handle goods on a commission or on a salary, or they can be sent here. Nearly all of the dealers speak Spanish and some speak English. English and Spanish speaking Moors could be employed for assistants in case agents were sent here from America. Having samples to display is a strong feature, and new things have to be pushed carefully in order to create a demand.

BANKS—EUROPEANS GIVE EASY TERMS ON SALES.

The following are the principal banks in Tangier: Deutsche Orient Bank, Campagnie Algerine de Banque, Credit Lyonnais, State Bank of Morocco (stockholders are foreigners). To these banks one could write for references and as to the standing of the merchants here.

The merchant buys for cash or on time. European shippers to this market give long time for payments and easy terms of interest, but if it is to the advantage of the dealers many pay cash and get the goods cheaper.

The importance of the trade of Morocco is not represented by the available figures of her exports and imports. A trade foothold and the establishment of American goods in her markets now may mean a great deal in the future. In Morocco there are about 10,000,000 people, the bulk of whose material for clothing is imported. The area of the country is 219,000 square miles. It is fertile and rich in minerals. Introduce modern methods of agriculture, mining, and transportation; join the interior with sea coast by railroads and steamboats, thereby affording convenient, cheap, and quick movement of freight, and the latent possibilities of Morocco will develop rapidly and the value of her imports and exports increase many fold.

[Addresses of Moroccan dealers in various lines are on file and may be consulted in the Bureau of Manufactures.]

AUSTRALIAN CHRISTMAS TRADE.

AMERICAN SAMPLES SHOULD REACH THE COUNTRY BY APRIL.

Consul Henry D. Baker, of Hobart, endeavored to ascertain to what extent American exporters participated in the annual Christmas trade in Tasmania. His report which follows applies equally to all Australia, and should serve as a basis for extending sales of American gift articles there:

I regret to report that most of the articles sold in local shops for Christmas presents appear to have been of English, French, or German manufacture. To a limited extent, however, American goods proved popular for Christmas purchases. This was most true of books. American authors in recent years have gained a great reputation throughout the Commonwealth of Australia. Moreover, American bindings and illustrative work have quite captured the popular fancy. With the exception of Queen Alexandria's "Gift Book," there were no books sold for the past holiday trade which had anywhere near the sale of a few of the most recent American novels. These books have been mostly purchased by local retailers through purchasing agents in London. It would probably pay American publishers to send catalogues, or have agents in Australia, so that this trade could be direct, instead of through London. American toy books, selling from 1 penny (2 cents) each upward, have always sold here well during the holiday season and are one of the most important lines received from the United States.

TOYS, MUSICAL INSTRUMENTS, ETC.

In dolls and mechanical toys the local holiday demand seems to have been met mostly by German manufacturers. Certain articles, however, like iron tricycles, from $2.50 upward, and iron "Express" wagons, from 4s. to 7s. 6d. upwards (95 cents to $1.78) were imported quite largely from the United States, and sold very readily. One leading local store tried to import a number of wooden wagons from the United States, which, during the preceding season, had been quickly disposed of at an average price of 4s. (95 cents) each, but was informed that none of them were being exported this year. A few toy motor cars from the United States were sold out early in the season. It is rather surprising that "Teddy bears" have not been sent here from the United States, which apparently was their original home. The children here, as in the United States, have become seized with the "Teddy bear" fad, and apparently like them as well as or better than dolls; but, as nearly as can be ascertained all the "Teddy bears" sold here during the recent season were made in England.

The sale of jewelry during the holiday season in Tasmania is always very large. This is mostly cheap jewelry manufactured in Australia, and a somewhat better class of jewelry manufactured in England. The styles of jewelry are mostly different from what is sold in the United States. By reference to advertisements in the illustrated Australian weeklies, American manufacturers could easily inform themselves on the styles popular here.

The sale of musical instruments for holiday presents was also very large, these instruments being mostly imported from Germany. The sale of American phonographs, however, has been extraordinarily large in proportion to the population. In the remote parts of Tasmania and in its island dependencies, they are most common. They seem to be considered now as almost necessary articles in lonely stations far from town. The American sewing machine seems to be a gift which settlers are fond of making to their wives and grown-up daughters. Among the cheaper articles from the United States which had a noteworthy sale during the holiday season were fancy perfumed soaps, selling for about 1s. (about 24 cents) for three cakes, also American hair brushes with aluminum backs, selling for about 2s. 9d. (66 cents) each.

American exporters who desire to participate in Australian holiday trade ought to have their samples in Australia by April. Owing to the great distance from the United States about 3 months ought to be allowed for sending a letter and receiving a reply. It ought also to be borne in mind that Christmas in Australia is in midsummer and that gifts should be suitable for warm weather rather than for cold, and to a large extent for outdoor use.

TURKISH-BRITISH TRADE.

AN OTTOMAN CHAMBER OF COMMERCE IN ENGLAND.

Consul-General Ernest L. Harris, of Smyrna, furnishes the following information concerning the efforts of Turkish residents in Manchester for the enlargement of Turkish and British commercial relations, and also the proposed establishment of a British chamber of commerce in Smyrna for the purpose of maintaining and increasing British trade in Asia Minor and throughout Turkey in general:

An Ottoman Chamber of Commerce has been established in Manchester, England. Considered in connection with the chamber established in Paris about a year ago, it is apparent that Turkish merchants, in conjunction with interested business circles in Europe, are bent upon extending the commerce of their country.

The chief aims of this Manchester chamber are: To promote Ottoman trade and commerce in the United Kingdom and to promote legislation in both countries which will favorably tend to create amiable business relations; to collect reports and compile statistics which will add to the information of English and Turkish merchants, and to point out the best methods for mutual trade expansion; to find new outlets for Turkish products in England; to offer the services of the chamber to all persons, whether British subjects or foreigners, desirous of opening up relations with the Ottoman Empire, by supplying them with information concerning usages in that Empire and the requirements of the Ottoman law, etc.

OBJECT AND SCOPE OF THE CHAMBER.

Another interesting and novel feature of the chamber's work will be to create permanent and temporary exhibitions and to establish courses of lectures and commercial institutions with the object of making known in Great Britain the products of the Ottoman Empire, and to collect such publications as shall throw light upon those subjects. The chamber also offers its services as arbitrator in the settlement of disputes not only between members, but between any English or Ottoman merchant who may desire the good offices of the institution in this respect. Those who have founded the chamber intend that it should present memorials to the British and Ottoman authorities upon questions of general interest affecting the commercial, industrial, and financial relations of the two countries, especially on such subjects as transportation, customs, mails, bonded warehouses, banking, protection of patents, trade-marks, and industrial designs.

The board of directors is made up chiefly of Turkish subjects residing in Manchester who have settled permanently in that city, and, as has been stated, who practically control all the business which is done from that point with the Levant, and more especially with Smyrna.

BRITISH SALES IN TURKEY.

At the present time British exporters find a market for their goods in Turkey of the annual value of nearly $38,932,000, made up principally as follows:

.Articles.	Value.	Articles.	Value.
Apparel	$115,844	Linen manufactures	$89,774
Arms, ammunition, military and naval stores	18,174	Machinery	848,567
		Metals:	
Bags and sacks	149,921	Copper	268,287
Caoutchouc manufactures	72,342	Iron	821,805
Chemicals and chemical preparations	259,912	Tin	283,044
Coal, coke, and manufactured fuel	2,021,142	Oil	114,424
Cotton yarn	2,648,704	Oilcloth	188,814
Cotton piece goods	21,885,337	Painters' colors and materials	91,179
Other cotton manufactures	1,213,835	Ships and boats	205,466
Hardware	169,204	Silk manufactures	82,040
Jute piece goods	252,663	Woolen and worsted manufactures	2,715,429
Leather and leather goods	75,866		

ESTABLISHMENT OF A BRITISH CHAMBER OF COMMERCE IN SMYRNA.

For many years there has been talk on the part of British residents of establishing a British chamber of commerce in this city, but until the present it was not thought that conditions were favorable to the plan. With the advent of a new era in the Turkish Empire, whereby former restrictions upon trade in general have been removed, it is the prevalent belief that the country at large is on the threshold of a period of unparalleled prosperity, and this applies especially to the outlook in Asia Minor, of which Smyrna is the chief port of entry. British merchants are of the opinion that the time has come to put into execution the plan of founding a chamber of commerce, with the object in view of not only keeping a tight grip upon the large trade which has been so laboriously built up in the past, but of seizing every opportunity which the present and immediate future may offer of furnishing the increasing requirements of the Turkish people with British products. It is unnecessary to dwell upon the wisdom of this step. In this day and age of keen competition in practically every branch of industry, any action which has in view the lending of a helping hand or the creation of new markets for manufacturers and laborers at home is certainly a movement in the right direction, and this is especially the case in a country like Asia Minor.

The object of the new chamber of commerce is to promote British trade generally and to foster British union and combination in commercial matters. It engages to further scientific methods of commerce, such as commercial education, foreign languages, experienced travelers, etc. The programme of work comprises various things, chief among which is to keep members informed of current prices and openings. They are also to be supplied with statistics concerning local and imperial trade. A sample bureau is to be maintained for both import and export information, as well as a list of confidential reports as to the standing of all houses in Smyrna for the benefit of manufacturers who may be asked for credit.

GUARDING AGAINST DISHONEST TRADERS.

Another important feature of the chamber is the avowed policy of keeping in touch with the principal chambers of commerce in England and, when necessary, to warn them against fraudulent traders. During the past year many American merchants have unfortunately been made the victims of certain exporters in Smyrna who deliberately set about to defraud purchasers by sending out samples of extremely good quality. When a large order was obtained the goods actually delivered fell far below the quality of the sample submitted, and as the shipments had been partially paid for, either in advance or cash against documents in New York, it was next to useless to make an attempt to regain the money. While this consulate-general, in some instances, has taken upon itself to assist American merchants who have thus far been duped, and while in a few cases a part of the money has been recovered, in matters of this nature the defrauded merchant should look to the Turkish law courts for redress, unless the seller should be a foreign subject, when action may be brought in that consular court under which the defendant enjoys protection. If the newly established chamber of commerce successfully combats combines to defraud, it will merit well from the commercial world at large.

MARKETS FOR REFRIGERATORS.

CHINA.

NEW FIELD IN WHICH A GOOD TRADE MAY BE DEVELOPED.

Consul J. C. McNally, of Nanking, in reply to an Indiana manufacturing concern, writes that there is no better field in China than in that city for the introduction of cold-storage apparatus. His report follows:

The greatest obstacle to the general use of refrigerators in Nanking and this portion of China is the lack of ice other than that of a slushy nature taken from stagnant pools and stored throughout the winter by some ingenious method known only to the Chinese. As far as known, there are no refrigerators of American make in use in this locality. However, there are many ice boxes in use among those who can afford luxuries, and especially among foreigners. The slush ice sells at one-half cent per pound.

Ice boxes or refrigerators that would give to food stuffs the cooling effect of the slush ice without endangering the food, and at the same time consume a small amount of ice, would find a ready sale in the towns along the Yangtze River if they were introduced by a properly equipped representative and kept in stock at a central base in Shanghai.

Now that the Shanghai-Nanking Railway is in full operation, it is expected that the Shanghai machine-made ice will be shipped in next summer at $1.50 gold per 100 pounds. On account of the railway extension, Nanking is destined to become one of the most important interior cities of China, and the present value of the market will be many times multiplied in the near future. [There are on file in the Bureau of Manufactures the addresses of Nanking dealers in foreign goods and of compradores, or commission agents.]

COLOMBIA.

CRUDE BOXES USED—ICE A LUXURY IN TROPICAL COUNTRIES.

Consul Isaac A. Manning, of Cartagena, sends the following report on the use of refrigerators and the consumption of ice in that portion of Colombia:

Refrigerators, ice boxes, and coolers are not in general use in private houses, although all hotels and saloons use them. These are largely of local manufacture, being simply large ice boxes. There has been some effort to use imported refrigerators, but they are too expensive, consuming too much ice. As in most tropic places ice is considered more a luxury than a necessity, most of the people buying their food products from day to day. They thus buy only a few pounds of ice for use with their meals.

The duty on refrigerators is 3 cents per kilo (2.2 pounds) plus surcharges of 70 per cent and 2 per cent, or $0.0511 per kilo.

AMERICAN TRADE IN SWITZERLAND.

CAUSE OF THE SMALL SALES OF MANUFACTURES IN THE REPUBLIC.

In calling the attention of American manufacturers to the comparatively small sales of their products in Switzerland, Consul George Gifford, of Basel, advances the following reasons therefor:

The relatively small quantity of American manufactured goods sold in Switzerland may perhaps be accounted for in part by the lack of direct personal effort on the part of American manufacturers and exporters. That this negligence really exists seems to be proved by the statistics in reference to commercial travelers just published by the Swiss Government.

During the year 1908 there were no less than 7,097 foreign travelers engaged in selling their wares in Switzerland. These figures are so significant of the different methods employed by the various countries and, it may truly be said, of their different success as merchants that they should have an interest for American exporters. The countries represented by these travelers were as follows: Germany, 4,711; France, 1,531; Italy, 405; Austria-Hungary, 248; Belgium, 85; England, 61; Holland, 32; Spain, 9; Luxemburg, 5; United States, 4; Turkey, 4; Greece and Russia, 1 each.

Of course the contiguity of territory contributes more than anything else to the preponderance of the first four countries named in the Swiss market, but there is no doubt that they also know how to strengthen their geographical position by wise and persistent study and vigorous action.

Manufactures, with the exception of universally recognized inventions and novelties of the very first importance and value, can be sold in no other way than by direct personal appeal to the buyer. How can the United States expect four representatives, no matter how competent they may be, to sell machinery, automobiles, and, in fact, anything less universally known and appreciated than American writing and sewing machines and cash registers in competition with the army of thousands of trained canvassers who inundate a territory only about a third as large as the State of New York and with a population considerably smaller than that of New York City?

WHAT COMMERCIAL TRAVELERS SELL IN SWITZERLAND.

That this army is chiefly occupied with the sale of manufactured goods is shown by the following table, wherein is given the number of foreign travelers engaged in the sale of the different classes of merchandise, the number of Germans being especially indicated, since they constitute a majority of the whole number:

Classes of merchandise.	Number of travelers engaged in selling the different classes of merchandise.		Classes of merchandise.	Number of travelers engaged in selling the different classes of merchandise.	
	Total.	German.		Total.	German.
Textile industries	1,948	1,305	Chemicals, drugs, perfumery, and colors; wood, and manufactures of wood	376	261
Machinery	187	149	Grease	272	230
Metals	771	644	Waste and fertilizers	93	36
Jewelry, clocks, and watches	305	188	Rubber	11	5
Hardware	378	281	Straw, reed, and bark	102	86
Food products	833	245	Agencies	55	25
Leather, boots and shoes	314	226	Miscellaneous	444	307
Glass	118	81	Total	7,097	4,711
Objects of art and literature; paper	762	566			
Pottery, cement, stoneware	128	76			

It should be added that small as the number of American representatives is, there has, nevertheless, been a notable gain over the two preceding years, when the United States had only one commercial traveler in Switzerland. It is true that meantime Germany had increased her commercial forces by a thousand and France by half as many.

WINNING TRADE IN INDIA.

HOW AN AMERICAN MANUFACTURER SECURED BUSINESS.

For the information of manufacturers contemplating the extension of their export business to British India, Consul-General William H. Michael, of Calcutta, furnishes the following report:

A manufacturing firm in Ohio concluded to place its goods on the market of India, and after availing itself of all the information it could get, and acting upon the advice of this office, sent its vice-president, a man of large experience and of fine business ability as a salesman, to the Orient, Australia, and India for the purpose of establishing agencies for the sale of its goods. After visiting Japan, China, the Philippine Islands, and Australia, he came to India. He established himself for a campaign of investigation and of business action. He took advantage of the willingness of this consulate-general to help him to a line of acquaintances among the people he desired to know, and when he was ready he selected a firm which he desired should buy a large bill of goods and become an agent for his company.

After having the scheme and terms of the proposition explained to them and fully considering them, they decided to place a large order and to become the agent of the Ohio manufactory. The representative spent two weeks in giving instruction to those of the firm who would have the handling of the new line of goods that would enable them to exploit the goods in a practical and satisfactory way. He not only devoted himself to educating the designated persons connected with the firm in Calcutta, but went to other points, where the Calcutta house has branches, and gave instruction at those branch houses as to how to exploit the new goods. Besides this he visited government engineers, who would have use for the goods, and explained to them their superior qualities, and had assurances that the goods would be given a trial, and that if they proved as represented and guaranteed, large orders would be placed.

Samples of the goods were exhibited and exploited on actual work, and the Ohio representative had the satisfaction of not only selling a large order of goods outright, but of creating an impression in regard to his goods that meant a good deal to his company for the future.

His work in Australia and the Far East was as successful as that in Calcutta and India.

Other American manufacturers who produce goods that are needed and suited to the requirements of India must lay a foundation, as this Ohio company has done, on which to build up a trade. Letters, circulars, and catalogues will not answer. It must be done by persevering, intelligent, personal effort. After a line of goods or a single article has once been successfully introduced, catalogues, circulars, and newspaper advertisements may be used to advantage.

No American manufacturer has ever succeeded in winning trade in India by any other method than that described, and success by any other method, under existing conditions in India, is wholly impossible.

SNOW SHOVELS IN CANADA.

THE AMERICAN MAKE NEEDED FOR THE DEEP SNOWFALLS.

Consul Martin R. Sackett, of Prescott, writes that the small item of a durable and efficient snow shovel is strikingly lacking in that section of Canada. His report indicates what is needed:

This is a country of deep snows, yet one looks in vain here for a shovel, either in form or style of manufacture, such as is sold in the "States." One is largely used here fabricated from a single piece of wood, literally whittled out of a tree. This tool has the shovel form, it is true, and works fairly well in some conditions, but it is very slow, splits easily, and is inadequate for doing the work of a snow shovel rapidly and effectively. There is also in use a small affair with a blade of thin iron and a wooden handle, which is a fairly good article in heavy snow or slush, but for rapid use under normal conditions in this climate the householder can find nothing in the local market so suitable as the cheap, durable snow shovels made of a number of thin wood ply to be found in the United States. I am convinced that a snow shovel made either of wood or part wood and part metal, big enough to clear the road, durable and fairly cheap, would sell in this section in large quantities. It is a small line, but there are many small things in trade. These suggestions are offered for the season of 1909-10.

SHIPPING OVERCHARGES.

EXCESSIVE CHARGES ON AMERICAN MACHINERY SENT TO HOLLAND.

A complaint has been made to the consulate of the United States at Amsterdam by a firm which imports considerable American machinery into Holland, the case being presented by Consul Henry H. Morgan, as follows:

The firm has been handling such American machinery as engine lathes, milling machines, shapers, boring and drilling machines, and is endeavoring to increase their import. Its principal difficulty in handling these articles at a profit is the freight and other charges connected therewith. The firm calls special attention to the cartage charges in New York and the charges made by shipping companies for hoisting packages into and out of the steamers. As an example they cite the charges on one case of machinery weighing 7,435 pounds from Providence to Amsterdam, as follows:

Railroad freight, Providence-New York	$11.24
Cartage in New York, at 10 cents per 100 pounds	7.49
Hoisting into the steamer (minimum charge)	12.00
Freight, New York-Amsterdam, at 10 cents per cubic foot	14.08
Bill of lading and clearance	1.00
Hoisting out of the lighter at Amsterdam	10.00
Insurance against all risks, at 1 per cent	15.00
Cartage, etc., in Amsterdam	2.00
Total	73.71

COMMERCIAL TRAVELERS ABROAD.

EUROPEANS TAKING TRADE WHICH AMERICANS SHOULD CONTROL.

Consul Isaac A. Manning, of Cartagena, describes the methods of European houses and their commercial travelers in securing the trade of Colombia and other South American countries. He says:

American manufacturers and jobbers are neglecting one of the principal elements in the extension of foreign trade, namely, the commercial traveler. The presence in Cartagena recently of various representatives of European houses makes the absence of the American traveling salesman all the more noticeable. The merchants of Latin-American countries have their own business methods. To know these methods and to defer to them means all the difference between orders and no orders. No European traveler expects to get his customers into his sample room the first few days after his arrival. Several days are spent in the exercise of social amenities, making the acquaintance of the people, and in helping his prospective customers in the examination of their stock on hand, with a view to learning their needs. Then when the customers do go to the sample room they are ready to place their orders.

SALESMEN WITH SAMPLES CAN PLACE MANY NEW LINES.

Within the past two months there have been salesmen in Cartagena from Manchester, Bremen, Barcelona, Paris, and Antwerp, all with large lines of samples of manufactured goods in cotton, linen, silk, and all the notions for which there could be an inquiry. The salesman for the Manchester house carried 19 large trunks of samples; he spent over a month in Cartagena, and no doubt as much time in Barranquilla, Bogota, and other cities where he does business in Colombia. His sales in this country amounted to over $300,000 in 1908.

Many of the goods sold by these salesmen are made up in Europe from American raw materials and are paid for in Colombian raw material, much of which is shipped direct to the United States. There is no reason why the latter country should not manufacture the dry goods, notions, etc., required by this country, except that the manufacturers and jobbers in the United States do not realize what Colombia and other South American countries require. This lack of information can be overcome by sending intelligent commercial travelers into the South American field to show their samples and learn the demands of the markets.

There are many lines in which the personal equation is the principal power. Dry goods, ready-made clothing, boots and shoes, notions, tools and implements, stationery, office supplies and devices, all sell better seen than unseen. The commercial traveler who brings samples can place many new lines which the buying merchant has probably never known before.

GERMAN COMMERCIAL EXPERTS.

APPRECIATION BY BUSINESS MEN—CONSULAR WORK.

Consul-General Richard Guenther, of Frankfort, calls attention to the present discussion in Germany on the commercial experts attached to German consulates:

The German industrial world recognizes that these important services have been instrumental in extending German commerce all over the world. The fact that the Federal Government has again asked the Reichstag for an appropriation of 300,000 marks ($71,430) for the continuation and increase of this service has met with the warmest approval of the industrial and commercial circles. As the committee of the Reichstag, however, has decreased this amount to 200,000 marks ($47,600), which is believed by German exporters to involve serious damage to their export trade, the German commercial and industrial world is exerting its whole influence to have the full amount recommended by the Government appropriated.

In connection with this subject it is interesting to note that the Federal Government has also asked for an appropriation of 10,000 marks ($2,380) for the economic commercial education of aspirants for the higher consular service. In explaining this appropriation a memorial has been sent to the Reichstag which states that it is intended to apply this fund in sending candidates for the consular service temporarily to the commercial academy at Frankfort-on-the-Main, or to similar institutions, as, for instance, the commercial high schools, which during late years have been established at Berlin and other German cities. It is also contemplated to induce candidates, as far as possible, to take temporary employment at a bank, a larger commercial establishment, or at a German chamber of commerce, in order to gain a better practical knowledge, especially of the achievements and needs of the German industries and commerce. Several candidates sent to the commercial academy here succeeded in finding employment at a Frankfort bank or in a commercial house while studying at the academy or during vacation, and in their subsequent practical consular activity were enabled to make good use of the knowledge gained.

It is intended by this appropriation to assist in a moderate degree such candidates for the consular career, during their attendance at a commercial school. This aid is to be extended only to candidates who have already been at work in the foreign office and who have demonstrated by their reports on commerce and water transportation that they possess special fitness for economic work. It is expected that such an enlarged education of consular aspirants will enable them to take care of the interests of German commerce with greater intelligence and skill when they occupy positions in the consular service, and that they will thus be of increased usefulness to the German industries.

SHORT-PAID LETTERS.

COMPLAINTS AGAINST AMERICAN FIRMS WRITING TO DOMINICA.

Consul Ralph J. Totten, of Puerto Plata, cites the following to show that American exporters and manufacturers should be careful when sending letters and catalogues to foreign countries to see that the full amount of postage is paid:

I have had several complaints from business men of Dominica in regard to this matter. Some time ago I supplied an American firm with the names of the local dealers in a certain line of merchandise. One of the merchants informs me that he has received two communications from the American firm, each with a 2-cent stamp affixed. This meant the payment of 3 cents postage due and a fine of 3 cents, 6 cents in all.

This may seem to be a small matter, but when an American firm is trying to interest local merchants in a new line, and the local man must pay 6 cents postage before he reads the proposition in which he may or may not be interested, he is certainly more or less prejudiced against the matter in advance.

AUSTRALIAN TRADE COMPETITION.

IMPORTANCE OF MAKING STYLE OF GOODS DESIRED BY CUSTOMERS.

Consul-General John P. Bray sends from Sydney a newspaper clipping giving an interview with C. Hamilton Wickes, the British Government Trade Commissioner in Australia. Regarding trade extension he said in part:

There is no defense for the British attitude in regard to some things. Take, for instance, an improved American saw, which is having a big sale here now. Samples of that saw reached England long before it got to Australia, and, although the advantages of it were obvious, the English manufacturers simply could not be persuaded to turn out a saw like it, and as a consequence, the whole of the Australian trade was lost. But still, it isn't only the British manufacturer who is ultraconservative in some cases. We have many instances of both Germans and Americans refusing to take advantage of opportunities like that. There is, for example, the case of a big up-to-date American firm who were asked to send out perambulators with holland covers, for which a big demand was setting in, but no, they refused to replace the orthodox American cloth with holland, and, as a consequence, you are getting perambulators out here with no covers on at all, and the holland is being made up and put on locally.

FOREIGN COMMERCE.

BRAZIL.

HARDWARE AND MACHINERY TRADE.

EXCELLENT PROGRESS IN SALE OF AMERICAN GOODS AT SANTOS.

The majority of the letters received at the consulate in Santos are from Americans, either directly or indirectly interested in the manufacture or exportation of hardware and machinery, which indicates to Deputy Consul Dirk P. De Young that that branch of American industry is making an unusual effort to secure a reasonable share of that class of business in that part of Brazil. This leads him to write:

Many of the letters solicit suggestions for increasing an already established trade and others are seeking connections with reliable importers or special agents. This manifest interest in that particular branch of American export trade is perhaps due to the recent extensive improvements in this part of Brazil along lines requiring such materials and to the surplus at home. Regardless of the precise cause, however, conditions are favorable for that line of American trade, and from the statistics relating thereto it may be seen that the increase has been accordingly substantial. In fact, it is in this line only that American imports to Santos have held their own.

It is generally conceded by the local hardware dealers that American hardware, when placed on the shelves beside a similar grade of European make, prices being equal, is quite superior and a more popular article. The difference in price has always been the greatest obstacle the American exporters have had to overcome. In most cases the only way they can remove it is by talking superiority, which many American salesmen are doing with remarkable success. There are some cases in which American prices are lower even in a better grade, of which barbed wire is a leader and has the control of nearly all that business at present, as the unprinted statistics of 1908 will show. It is a very noticeable fact that the articles in which the greatest increase is shown are those that have met prices or have made such local connections as to convince the public of their superior qualities.

IMPORTS BY COUNTRY.

Since so many of the articles of hardware entered at this port are unclassified under a general head of manufactured goods, exact figures as to the amount imported from each country are unavailable. Many of the larger articles are listed and an idea of how the trade is divided may be seen therefrom. The following statistics are taken from the quarterly published reports and are only three-fourths of the years 1906 and 1907.

The countries as given are of the three highest in the articles named therewith, and show the amount and per cent of gain or loss in the year 1907 over 1906, computing the paper milreis at the rate of 3 milreis for $1 American currency:

	1906.	1907.	Per cent gain (+) or loss (−).
ELECTRICAL APPLIANCES.			
United States	$169,099	$308,025	+ 88
United Kingdom	8,810	33,088	+275.5
Germany	28,840	37,571	+ 30.2
SCALES.			
United States	7,191	8,920	+ 24
United Kingdom	324	1,775	+447.5
Germany	513	1,277	+149
HYDRAULIC ENGINES AND APPLIANCES.			
United States	2,537	15,539	+512.5
Germany	1,501	1,235	− 21.5
United Kingdom	4,057	4,064	....
SEWING MACHINES.			
Germany	84,924	184,974	+117.8
United States	18,821	95,881	+409
United Kingdom	12,258	25,433	+107.5
TYPEWRITERS.			
United States	8,462	12,354	+ 46
Germany	734	456	− 37.3
France	358	176	− 50.8

	1906.	1907.	Per cent gain (+) or loss (−).
ARMS, GUNS, PISTOLS, ETC.			
Belgium	$25,344	$76,139	+200.8
United States	23,705	47,569	+100.7
Germany	32,720	1,200	− 96.3
CUTLERY.			
Germany	40,123	72,862	+ 81.5
United Kingdom	18,578	40,919	+120.2
United States[a]	2,311	9,909	+354.7
DENTAL INSTRUMENTS.			
United States	22,885	29,762	+ 29.1
Germany	8,291	15,169	+ 82.9
France	10,881	14,082	+ 29.5
BUILDERS' HARDWARE, NAILS, ETC.			
Germany	77,918	177,014	+ 54
United States	77,831	100,249	+ 28.8
United Kingdom	50,119	39,995	− 21.9
KITCHEN UTENSILS, BOTTLES, ETC.			
United Kingdom	186,527	299,968	+ 53.5
United States	35,349	118,948	+222.3
Germany	34,746	64,561	+ 85.8

[a] The United States have been putting in a lot of fine cutlery recently, which is cutting into the amount of the cheaper German goods.

The articles named have not been picked out to favor any particular country and are used as they appear in the report. The interesting facts are thus deducted therefrom. The total per cent of gain, after deducting total per cent of loss, of the three leading countries throughout was by per cent: United States, 181.5; United Kingdom, 96; Germany, 46.8.

MORE PERSONAL WORK.

Articles, such as cutlery and sewing machines, in which the large gains have been made, are the most systematically worked. The most obvious reason that all lines of American hardware have not done so well as the few lies in the fact that the manufacturers thereof do not incline to adjust themselves to local conditions. The representatives of European hardware interests are on the ground watching for every advantage. They not only send out experts who make a detailed study of the local habits, tastes, and peculiarities of these people, but they follow up their consignments by salesmen who speak Portuguese and adjust themselves to the local customs. Branch houses are also established where only their lines of goods are handled. In every instance where American goods have been so exploited they have met with decided success. The superficial way some manufacturers have of writing to the American consulate asking some of the attachés thereof to locate an agency for them is as unproductive as it is unwise.

A specific case illustrating the wisdom of personal work, as above mentioned, was demonstrated in this consular district last year. A former American citizen who now resides in Brazil took the exclusive agency of a charcoal-burner flatiron of American make. After receiving the consignment he started a vigorous canvass that resulted in the sale of more than 1,000 in less than six months' time in a territory where none of that make were ever sold before. He sold them at $5.40 each, in competition with others selling as low as $1.50. The difference in price was overcome by demonstrating the superiority of his goods, which he did by the enthusiasm and force of his arguments. The net proceeds on the sales referred to amounted to about $3,000, which he considered to be good compensation for the time employed. Another gentleman is doing equally as well with a line of American cash registers.

What these agents have done with American articles is a matter of common occurrence among agents for foreign goods. They have used European tactics to sell American hardware, which by way of reciprocity ought not to be a serious infringement, inasmuch as the former are so successful in imitating American patterns. Manufacturers of the United States should therefore arrange special agencies or establish branch houses where no inferior goods are sold. In conjunction therewith competent specialty men should be sent out to study the social conditions, to suggest changes, and coach the jobbers in the finer points of the article. Only an organized and powerful campaign will secure results.

POSTAGE, INQUIRIES, CORRESPONDENCE, CREDITS, ETC.

In view of the fact that 90 per cent of the letters addressed to this consulate are inquiries from Americans interested in hardware and machinery, all containing almost the same character of questions, a list of answers quite suitable to all are formulated below:

As many of the letters come to this consulate, and to local dealers as well, covered by only a 2-cent stamp, postage-due penalty of about 9 cents for every half ounce and fraction thereof is charged to the addressee, which in the case of the prospective customer is a bad impression to start with. Senders of 2-cent-postage letters have been been notified, and they usually send a letter of thanks for the information, in due time, covered only by a 2-cent stamp. The same error is usually made in sending out a lot of bulky advertising matter. If the prospective customer answered such letters or circulars, it would be only to give the senders thereof rasping admonition not to send any more of them.

Many of these letters and circulars sent out to the dealers here are answered by bona fide importers and dealers seeking terms and prices, and they never hear from them again. If the local buyer has been encouraged so far as to answer circulars, he is interested, and it seems ill timed to then drop him.

Correspondence should be carried on so far as possible in the Portuguese language, the language of the country, or in Spanish or French. Catalogues or correspondence in the English language addressed to Brazilian dealers with few exceptions go to the waste basket without much ceremony. Use weights and measures as used in this country—i. e., the metric system; also quote prices in the money of the country (1,000 reis=1 milreis=30 cents). Concerning marking and packing, manufacturers should not ignore the Brazilian customs laws. Heavy fines are imposed upon the consignee for any irregularities therein. Shippers can familiarize themselves therewith at any of the Brazilian consulates located in the United States. All hardware should, if of such a nature that it is liable to rust, be packed in oil paper, so as to preserve it during transit.

One of the most important factors in securing this trade is liberal terms and long credits.

Prospects are good for all lines of hardware and machinery.

[A list of the importers in and dealers of hardware and machinery in the leading Brazilian cities may be obtained from the Bureau of Manufactures. The following American hardware goods are entitled to a 20 per cent reduction of duty on entering Brazil: Scales, windmills, ice boxes, typewriters, and cash registers.—B. of M.]

ARGENTINA.

ESTIMATED EXPORTS OF CEREALS DURING PRESENT YEAR.

A Buenos Aires correspondent of the London Times, writing under date of January 18, 1909, gives the following statistics concerning the estimated exports of Argentine cereals and linseed in 1909:

> The quantity of wheat required for home consumption and seed purposes is officially calculated at 1,300,000 tons, and therefore the probable export during 1909 as 3,350,000 tons in the form of grain and flour. With regard to linseed, the official estimate of the surplus for export is given as 1,000,000 tons; but this is generally considered as being a very conservative computation, as from all reports received from the "camp" so far the outturn of the crop is very heavy, and a probable export surplus of nearly 1,200,000 tons is looked for, though some estimates even put the figure as high as 1,500,000 tons. With regard to oats, it is pointed out in the report that it is very difficult to estimate the probable export surplus on account of the extent of the area given over to pastoral purposes and to the difficulty of calculating what may be required for fodder. The general opinion of the trade seems to be, however, that shipments will reach about 700,000 tons. The report further goes on to say that the maize fields are in splendid condition, and should no accidents of weather or locusts intervene, the very low estimate of yield of 2,000 kilos per hectare (17.84 bushels per acre) would give us a crop of 6,000,000 tons, which would be the largest ever gathered in the Argentine.

JAMAICA.

POSSIBLE MARKET FOR AMERICAN LANTERNS.

Consul F. Van Dyne, of Kingston, in reporting that there is a large trade in hand lanterns in Jamaica, as there is in force in that island a stringent law requiring all vehicles to carry lights after sunset, gives trade particulars.

The bulk of this trade is now in the hands of the Germans, on account of the difference in price between the lantern furnished by German manufacturers and the cheapest article of that class of goods sold by American houses. I am informed by a dealer that the best price he can get from American manufacturers on a lantern of the description used here is $5.50 per dozen, while he secures a lantern from Germany at $2.68 per dozen, delivered at Kingston. He exhibits an order of 25 dozen, recently received, the price being $1.87 per dozen packed, including glass and wick, f. o. b. at Hamburg.

The lantern is of tubular form, with oil chamber about nine-tenths the size of the American standard, but with the other dimensions the same. A spring lift for disengaging the glass is operated from the handle, and there is a sly, engaging each of the two supports, to which are attached iron rings to guard the glass, and which slip up to allow the glass to be removed. The support for the glass is perforated and the wick is operated in the same manner as other lanterns.

The American lantern is of a better class, but if the manufacturers of the United States can make a lantern of the description indicated and furnish it at a price to compete with the German lantern, a good trade could doubtless be secured. The lanterns retail here at 1s. 6d. (36½ cents) each.

CANADA.

INCREASING SALES OF PULP AND PAPER TO THE UNITED STATES.

The following figures have been given out in Ottawa by the Canadian customs department, showing certain features of the Dominion's trade in pulp wood and paper:

During the fiscal year (ended March 31, 1909) the quantity of pulp exported was: To the United States, wood pulp, chemically prepared, 769,514 cwt., and mechanically ground, 3,033,885 cwt.; to Great Britain, chemically prepared, 13,660 cwt., and mechanically ground, 973,598 cwt. The export of paper during the same period was: To the United States, wall paper, rolls, 19,974, valued at $6,440; felt paper rolls, 109,863, valued at $101,835; wrapping paper, 594,695 pounds, valued at $24,264; printing paper, valued at $791,533; paper of other kinds valued at $34,673. To Great Britain, wall paper, 512 rolls, valued at $159; felt paper, 5,060 rolls, valued at $21,896; printing paper to a value of $922,278, and other paper to a value of $354,887. During the same period 901,861 cords of pulp wood were exported to the United States.

The department of trade and commerce has issued a statement showing a considerable decline in the importing of printing paper from the United States. For the 9 months ended December 31, 1908, the value was $145,000; the corresponding 9 months of 1907, $231,000; corresponding 9 months of 1906, $274,000. The imports of printing paper from Great Britain range from $135,000 to $165,000 for each 9 months, and only a trifling amount was imported from any other country.

In the manner of export the sales of wood for wood pulp to the United States have increased. In the last 9 months of 1908 the value was a little over $3,500,000, compared with a shade above $2,000,000 for the corresponding term of 1906. No other country was a purchaser from Canada. In wood pulp the sales in the last 9 months of 1908 were $2,000,000, the same as in 1908, and $750,000 less than in 1907.

CHINA.

EXPORTS OF HUMAN HAIR TO THE UNITED STATES LAST YEAR.

Vice-Consul-General Stuart J. Fuller, of Hongkong, supplies the following information concerning the exports of human hair from China to the United States:

In the year 1907, 56,133 pounds of human hair were invoiced at this consulate-general for shipment to the United States, while in 1908 207,414 pounds were declared for shipment. To comply with the quarantine requirements there are two courses open—storage under the supervision of the Public Health and Marine-Hospital Service surgeon at this port previous to shipment, or disinfection under the same supervision. In 1907 all the hair was stored before shipment, but in 1908 the demand was so much greater, and importers were so anxious to get the hair to the United States, that a heavy proportion of the shipments were fumigated and disinfected instead of being stored.

It is also interesting to note that in 1907 over three-fourths of the total quantity moved by way of the Suez Canal, 42,789 pounds going that way, while only 13,344 pounds went via the Pacific lines. In 1908 the situation was somewhat changed. Partly to lessen the time of transit and partly because of efforts made by the Pacific lines to secure a greater share of the traffic, the exporters began to ship via Puget Sound ports and San Francisco, so that while the Suez route secured 112,119 pounds, the Pacific route handled 94,909 pounds.

This hair is brought to Hongkong from the interior, and here cleaned and sorted, according to length and quality. It is then packed and either stored or disinfected, in accordance with quarantine regulations, and shipped to New York. It is said here that the hair can be so treated in New York as to alter its color and texture, and that it is used in making the switches, curls, and bands which are so fashionable in the United States at the present time.

Last spring, when the demand in the United States for false hair began to assume considerable importance, one concern sent a man out here for the purpose of making direct purchases. Other concerns buy through local export houses.

JAPAN.

FOREIGN TRADE STATISTICS.

COMMERCIAL DEPRESSION SHOWS SIGNS OF IMPROVEMENT.

The following extracts relative to the leading features of Japan's foreign trade in 1908 are taken from the London Economist:

The foreign trade returns of Japan for 1908 show a shrinkage of 12 per cent as compared with the preceding year. The decrease was almost equally divided between imports and exports, as shown in the following statement (yen=$0.498):

Classification.	1907.	1908.	Increase + or decrease –.
	Yen.	*Yen.*	*Yen.*
Imports (commodities)	494,467,346	436,259,472	–58,207,874
Exports (commodities)	432,412,873	378,239,436	–54,173,437
Imports gold and silver, coin, and bullion	8,256,503	17,544,486	+ 9,287,983
Exports gold and silver, coin, and bullion	18,759,285	3,772,502	–14,986,783

The articles of export suffering the heaviest decline are wood, raw silk, cotton yarn, and copper. These four items account for about 60 per cent of the shrinkage. The exports of raw silk during December, 1908, were twice as much as for the same month in 1907, and the total exports for December were 37,000,000 yen, as compared with 32,000,000 yen in 1907. This improvement is accepted as a sure sign of recovery from the severe trade depression of 1908.

In imports there was an increase of 1,250,000 yen in steel rails and 6,750,000 yen in machinery. The principal articles showing a decline are raw cotton, 25,133,000 yen; rice, 8,250,000 yen; raw wool, 7,666,000 yen; iron bars, plates, etc., 7,500,000 yen; woolen goods, 4,500,000 yen; and paper, 2,000,000 yen. Imports for December give no sign of recovery, the returns being 32,000,000 yen as compared with 39,500,000 yen in 1907. Another unfortunate feature in Japan's foreign trade is the fact that while the prices of imports declined only slightly, there was a heavy decline in the prices of exports. Especially is this true in raw silk exports, in which the prices fell about 30 per cent as compared with the preceding year.

FINANCIAL CONDITIONS.

The severity of the financial crisis is brought out by the statistics of bullion movements, and the circulation of credit documents compared with the metallic currency. In 1907 the exports of gold and silver were some 10,000,000 yen in excess of imports, but in 1908 the imports exceeded exports by nearly 14,000,000 yen. This importation has evidently been required to make good the shrinkage in the credit circulation and the decline in banking business, as shown by the following table:

Description.	Average for 1907.	Average for 1908.	Increase + or decrease − in 1908.
	Yen.	*Yen.*	*Yen.*
Convertible bank notes	323,996,183	304,368,595	− 19,627,588
Specie reserve	146,558,909	153,928,503	+ 7,369,594
Coins in circulation	132,491,339	145,456,197	+ 12,964,858
Deposits with Tokyo association banks, banks of Osaka, and 4 provincial bankers' associations	585,843,659	514,364,283	− 71,479,376
Deposits with post-office savings banks	83,242,637	99,286,938	+ 16,044,301
Bills cleared in Tokyo, Osaka, and 4 provincial clearing houses	7,483,763,820	6,307,269,528	−1,176,494,292

The prices of banking shares have fallen in sympathy with this shrinkage in business, the three leading institutions showing the following declines: Bank of Japan, 690¼ to 553½; Yokohama specie, 255 to 205¾; and First Bank shares, 98¼ to 76. These figures are the average prices for 1907 and 1908, respectively.

YOKOHAMA'S COMMERCE.

IMPORTS ENTERED FOR CONSUMPTION AND EXPORTS AT THE PORT.

Vice-Consul-General E. G. Babbitt transmits a statement covering the foreign trade of Yokohama in 1908, prepared and printed by the Foreign Board of Trade of that Japanese port, from which the following statistics have been compiled:

The following statement shows the principal imports entered for consumption and the principal exports of Japanese products into and from Yokohama during the calendar year 1908:

Articles.	Value.
IMPORTS.	
Cotton, raw	$7,461,788
Cotton yarn	564,109
Cotton manufactures:	
Gray shirtings, 8¼ and 9 pound	1,977,327
Italians and sateens	550,578
White shirtings	465,182
Prints	195,266
Velvets	386,268
Italian cloth	201,555
All other cottons	388,849
Total cottons	4,165,025
Cloth: Pilots, presidents, and unions	1,301,812
Iron or mild steel:	
Hoop and band	49,775
Bar, flat, etc	1,503,780
Plate and sheet	780,794
Pig	295,344
Galvanized sheet	1,265,069
Wire nails	383,526
Tin plates	626,504
IMPORTS—continued.	
Sugar:	
Brown	$5,601,718
White, refined	1,284,655
Window glass	374,282
Wheat flour	765,301
Rice	3,622,288
Total principal imports	30,545,765
EXPORTS.	
Silk, raw	54,086,602
Silk waste	3,791,785
Silk piece goods	18,787,847
Silk handkerchiefs	1,897,882
Tea	2,049,631
Rice	178,353
Fish oil	650,767
Copper	4,080,122
Cotton yarn	162,672
Menthol crystals	107,294
All other articles	170,404
Total principal exports	80,963,359

The only items of the imports and exports by countries given in the statement from which the foregoing statistics are compiled are kerosene oil and raw silk. The imports of kerosene from the United States in 1908 amounted to 7,616,815 gallons, a decrease of 5,087,275 gallons as compared with 1907; from Russia, Borneo, and Sumatra 10,664,602 gallons, an increase, as compared with 1907, of 2,524,962 gallons. The exports of silk in 1908 amounted to 114,176 bales, an increase of 11,513 bales as compared with 1907. Of the exports in 1908, 84,899 bales went to the United States, against only 29,187 bales to Europe.

KOREA.

EXPORTS DECLINE, WHILE IMPORTATION OF MERCHANDISE INCREASES.

The Korean customs authorities have issued a report on the foreign trade of the peninsula in 1908. From this it appears that Korea, like Japan, did not make a very good showing last year, although in her case the decline is comparatively small. The total of the foreign trade, including gold, silver, and specie, amounted to 63,687,114 yen (yen=49.8 cents), as compared with 66,467,504 yen, being a decrease of 2,780,390 yen. The export of goods, apart from gold and silver, reached only 14,114,510 yen, which compares with 17,002,234 yen in 1907, while the imports totaled 41,025,849 yen, as against 40,050,405 yen in the previous year. The net result was an excess of imports of goods to the amount of 26,911,339 yen. In 1907 the corresponding figure was 23,048,171 yen. The main causes of the decrease in the exports are said to be a decline in rice and the nonexport of ginseng. Among the imports decreases occurred in cotton yarn, gray shirtings, and other articles used mostly by Koreans, owing to the tightness of money caused by the depression in Japan and to the lessening of the purchasing power of the native population by the decline of the export trade. These decreases were more than made up, however, by the import of materials for the various works lately set on foot and of necessaries of life for the growing Japanese population. with the result that the imports finally exceeded those of last year by about 1,000,000 yen.

Turning to the value of the trade with the various countries, it is found that Japan took the largest part of the exports, with 77 per cent of the total value (76 per cent in the previous year). Next came China, with 16 per cent, while all other countries together did not exceed 7 per cent of the whole. In the import trade Japan also took first place, with 59 per cent of the total value of the imports, and Great Britain came next, with 16 per cent, while China and the United States had each about 10 per cent, and all other countries together 5 per cent of the whole.

BRITISH INDIA.

FOREIGN COMMERCE STATISTICS.

COMPARISON OF IMPORTS AND EXPORTS DURING PAST TWO YEARS.

Consul Nathaniel B. Stewart sends from Madras the following statistics showing the foreign trade of British India, exclusive of treasure, for the 10 months ended January 31, 1909, compared with the same period of the previous year:

Provinces.	Imports.		Exports.	
	1907-8.	1908-9.	1907-8.	1908-9.
Bengal	$145,259,039	$122,206,921	$197,178,387	$183,214,688
Eastern Bengal and Assam	1,415,181	1,646,498	11,846,563	14,042,281
Bombay	119,187,923	112,266,982	132,944,200	104,505,338
Sind	27,153,667	31,858,643	52,636,644	20,336,339
Madras	27,263,166	32,386,971	50,545,198	47,874,603
Burma	29,447,742	36,057,791	36,623,304	26,949,172
Total	349,726,718	336,423,806	481,774,296	396,922,421
Government stores	17,540,237	21,404,380	359,313	306,244
Total	367,266,955	357,828,186	482,133,609	397,228,665

OIL TRADE.

IMPORTS AND EXPORTS OF COPRA AND COCOANUT.

In reply to a Philadelphia house, Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the trade in copra and cocoanut oil in British India:

Madras is the principal port of export for copra in India, but considerable is also exported from Bombay. The former port last year shipped to foreign countries 14,014,448 pounds, valued at $625,390, most of it going to France and Germany. The coastwise traffic in copra in 1905–6 amounted to 20,615,392 pounds, valued at $812,578. Of this Bombay sent 5,288,416 pounds, mostly to Sind, while Madras shipped to Bombay 15,070,152 pounds.

The exports of cocoanut oil to foreign countries during five years, 1900–1904, amounted to 3,399,631 gallons, valued at $1,627,196. The value of the exports in 1906–7 and 1907–8 amounted to $462,317 and $554,781, respectively. The United States and the United Kingdom are the best customers, and the trade is almost wholly in the hands of Madras merchants, who ship most of the cocoanut oil exported from India.

The imports of the oil into India in 1906–7 were chiefly from Ceylon and Mauritius, and amounted to 1,000,000 gallons, of which Bengal (Calcutta) received 731.281 gallons and Madras 171,215 gallons.

BRITISH SOUTH AFRICA.

UNITED STATES DOWN TO THIRD PLACE IN SUPPLYING IMPORTS.

The South African Customs' Union has issued from its Cape Town bureau a summary of trade for the past calendar year, a copy of which has been forwarded by Consul-General Julius G. Lay, who comments:

The returns disclose the fact that Germany has ousted the United States from the first place after the United Kingdom among the foreign countries in the South African market. Of the total importations into British South Africa of £24,438,266 ($118,928,821) in 1908, the United Kingdom supplied 56.2 per cent; Germany 8.7 per cent, and the United States 8.2 per cent. The figures for 1907, when the imports were valued at £25,920,278 ($126,141,032), were 57 per cent, 7.6 per cent, and 7.8 per cent, respectively.

While the relative position of the United States may now be lower in the scale of foreign countries supplying this market than it was the previous year, American manufacturers may perhaps feel some consolation from the fact that while the total imports into this country declined nearly $7,500,000 during the year 1908, the percental share of the United States increased from 7.8 per cent to 8.2 per cent, while those from the United Kingdom, with a preference in duties of 3 per cent, declined from 57 per cent in 1907 to 56.2 per cent in 1908.

These figures are accurate as far as they go, but are not given in sufficient detail to explain in what articles the import trade of this country has been affected from one country to another. When the annual import trade returns are available, however, this question will be more exhaustively discussed in the annual report from this office.

RUSSIA.

HOME PRODUCTS ARE TAKING THE PLACE OF IMPORTS IN SODA TRADE.

In stating that the production and consumption of soda and chloride of lime in Russia have greatly increased in recent years, Consul-General Hunter Sharp, of Moscow, says that the development of this branch of industry may be seen from the following figures:

In 1897 the consumption of carbonate soda was 99,324,000 pounds, of which 29,340,000 were imported. In 1907 the consumption increased to 142,848,000 pounds, only 792,000 being imported. Of caustic soda there was 53,048,000 pounds consumed in 1897, and 15,460,000 pounds imported. In 1907 the consumption reached 85,184,000 pounds, while the imports were reduced to 468,000 pounds. The annual consumption of bicarbonate soda is about 5,400,000 pounds, and is almost exclusively manufactured in Russia. The imports of chloride of lime in 1895, when the industry was in its infancy, amounted to 21,600,000 pounds. In 1907 the consumption attained 39,600,000 pounds, the imports being only 1,080,000 pounds.

It will thus be seen that the consumption of carbonate and caustic soda increased about 35 per cent and the production more than 100 per cent during the period from 1897 to 1907.

GERMANY.

LARGE DECREASE IN EXPORTS FROM SAXONY TO THE UNITED STATES.

Consul Southard P. Warner, of Leipzig, furnishes the following statistics showing the large decrease in the exports from Saxony to the United States in 1908:

As Saxony furnishes nearly one-fourth the total exports from Germany to the United States, the decline in the exports from Germany to the United States during the year 1908 has been particularly noticeable in the Kingdom. The declared values, in round numbers, of the exports from Saxony to the United States for the years 1906, 1907, and 1908 were $35,283,000, $37,623,000, and $28,894,000, respectively.

As will be seen from these figures, the exports from Saxony to the United States in 1907 show an increase of $2,340,000, or 6.6 per cent, over those of 1906, whereas the exports in 1908 show a decrease of $8,729,000, or 23.2 per cent, as compared with those of 1907.

SHIPPING.

OCEAN TRANSPORTATION.

CANADA.

NEW STEAMSHIP LINE FROM EUROPE TO MONTREAL.

Consul-General William Harrison Bradley, of Montreal, advises that the official announcement is made that the arrangements for the creation of a new line of steamships between European ports and Canada, under the name of the Canada Line, is completed, the details of which follow:

This is the second of the lines of which mention was made in a former report from this consulate. There will be three boats at first, which will run from Hamburg, Rotterdam, and Bremen, making Quebec and Montreal their summer ports, while St. John, Halifax, and Portland will be used for the winter. The service will be fortnightly and will carry both freight and passengers. The three steamers this season will be the Prince Oscar and Prince Adelbert, of the Hamburg-American line, and the Wilbad, of the North German Lloyd line. They each have a freight capacity of 7,000 tons; will carry 1,200 steerage, 100 first-class, and 100 second-class passengers. The boats will call at the three European ports both going and coming. The first boat, the Prince Oscar, left Europe on March 15.

The other line for which arrangement has been made is the fortnightly service of the White Star line, with the 15,000-ton steamers Megantic and Laurentic, between Montreal and Liverpool.

BRITISH COLUMBIA.

NEW STEAMSHIP LINES BETWEEN PACIFIC PORTS.

Consul Abraham E. Smith, of Victoria, supplies the following information in reference to steamship lines on the Pacific coast:

The Pacific Coast Steamship Company, in view of the anticipated rush to the Alaska-Yukon-Pacific Exposition at Seattle, and to accommodate the tourists and others, is inaugurating this month (April) a semiweekly service between Seattle and San Francisco. Once a week the steamers will call at Victoria and Port Townsend each way, and once a week they will make no stop between Seattle and San Francisco, being scheduled to make the trip in 55 hours each way. The steamers which each week make no stop between Seattle and San Francisco will continue on to San Diego, and make the round trip to Puget Sound and return in 14 days. It is expected that this express service between San Diego and the Sound, occupying only 120 hours, will result not only in large passenger traffic, but also in increased trade in perishable freight.

The new Mexican line between Puget Sound and Mexican ports, via Victoria and San Francisco, is now in successful operation, with the result that there is now semimonthly service between British

Columbia and Central American ports. Large shipments are being made from this port of grain from Alberta and Manitoba, as well as of lumber and general merchandise. These steamers connect with the Tehuantepec Railroad at Salina Cruz.

Arrangements are being perfected for semiweekly service this summer between Vancouver, Victoria, and Prince Rupert (the new city to be terminus of the Grand Trunk Pacific Railway); also to equip all regular steamers in the service with the wireless-telegraph system. All steamers will have instruments of sufficient power to connect with stations to be erected every 100 miles apart along the Canadian coast, including Cape Lazo, at Prince Rupert and Queen Charlotte islands.

GOVERNMENT SUBSIDY.

STEAMSHIP SERVICE WITH FRANCE.

Consul-General John G. Foster, of Ottawa, reports that on March 5 the Canadian government introduced into Parliament the following resolution, which was agreed to and received the assent of the governor-general:

> That it is expedient to authorize the governor in council to enter into a contract or contracts for a term not exceeding ten years with any individual or company for the performance of a steamship service between a port or ports in Canada and a French port or ports, on such terms and conditions as the governor in council deems expedient, and to grant therefor a subsidy not exceeding $200,000 a year, based upon a minimum service of 15 round voyages a year, and a subsidy therefor not exceeding $100,000, and so, in proportion, for a more frequent service.

MEXICO.

STEAMSHIP CONNECTIONS WITH ISTHMIAN RAILROAD.

Consul William W. Canada, of Veracruz, points out to shippers of the United States the advantages offered by vessels to the Tehuantepec Railway ports:

Several trial shipments of coffee for San Francisco, Cal., have recently been made over an entirely new route. The coffee came from the Cordoba district, in the State of Veracruz, and was then carried by the Veracruz and Pacific Railway, which is now in excellent condition and makes schedule time to Sta. Lucrecia, on the isthmus, and thence by a short haul over the Tehuantepec Railway to Salina Cruz, the Pacific terminal of that road. At Salina Cruz the coffee was sent by vessel to San Francisco.

There is no doubt that this route was selected by reason of lower freight rates secured as compared with those obtainable over the all-rail route direct. American exporters on the Pacific coast, therefore, have a new route to Mexican markets for their products which ought to be taken advantage of, for with a lower cost of transportation than formerly a fresh impulse to trade ought to result, more especially in the importation of wines.

Mexico is a heavy consumer of wines and liquors, now mainly imported from Spain and France. The custom of taking wine with meals is general, among the poor as well as the well-to-do. Spanish table wine may be purchased at Veracruz for about 25 cents United States currency per bottle. If California can get this trade, an immense business would result to the American exporter.

ANOTHER LINE CONNECTS WITH ISTHMIAN RAILWAY.

La Compañía Trasatlantica de Barcelona, which operates between Genoa, Barcelona, Cadiz, New York, Habana, and Veracruz, with connections for Puerto Limon, Colon, Cartagena, Sabanilla, Curaçao, Puerto Cabello, and La Guaira, has now added Coatzacoalcos, the gulf terminus of the Tehuantepec Railway, to its itinerary. The steamer Antonio Lopez, of this line, which sailed from Veracruz on her return trip on March 23, was the first vessel to call at Coatzacoalcos.

CHILE.

FAST PANAMA STEAMSHIP SERVICE NOW IN OPERATION.

Consul Alfred A. Winslow reported under date of February 23 that arrangements were finally completed whereby a twelve-day steamship service is established between Valparaiso and Panama, his details following:

There are fortnightly sailings from each point, beginning on Wednesday, March 10, from Valparaiso, and Saturday, March 13, from Panama. The sailings from Valparaiso will be every alternate Wednesday and from Panama every alternate Saturday from the above dates. The fine mail steamers now plying between Liverpool and Valparaiso will continue the voyage to Callao, Peru, after the above date, and from Callao to Panama the best steamers now in the service of the Pacific Steam Navigation Company and the Compania Sud-Americana de Valpores will be employed in the improved service. Stops will be made coming south from Panama only at Puna, Payta, Callao, Mollendo, Iquique, Antofagasta, and Coquimbo, and vice versa going north.

This will give a very much better service than has ever been known on the west coast of South America, and will make it possible to reach New York from Valparaiso within 18 to 19 days, and that in fine steamers and excellent service. By this route it will be possible to reach Europe several days quicker via Panama and New York than via the Straits of Magellan, and with equally as good accommodations.

This rapid service has been made possible only by a subsidy from the Chilean Government of 200,000 pesos, equal to $73,000 United States gold, for the first year. The steamship companies claim this will fall far short of meeting the estimated additional expenses, but they have determined to make a trial of it, hoping business may increase materially. This action on the part of the Chilean Government is only one of many showing the real desire on the part of this people to get in closer touch with the people of the United States, and to avail themselves of the products of their farms and factories. American interests should take advantage of this improved service to study the conditions along this coast and to get in closer touch with this rapidly developing field of American products.

REPORT BY THE MINISTER.

NEW LINE HIGHLY BENEFICIAL TO AMERICAN INTERESTS.

Referring to his previous reports in reference to the need of more rapid transportation between the United States and Chile, Mr. John Hicks, American minister at Santiago, writes under date of March

8, supplementing the foregoing report, and announcing that the long contemplated improvement is about to take effect. He says:

The two companies that control the passenger and freight service between Panama and the Pacific ports of South America—the Pacific Steam Navigation Company (British), and the South American Steamship Company (Chilean)—have arranged for a rapid service, beginning March 10. The first steamer, the Orita (British), is scheduled to leave Valparaiso on that date and reach Callao on the 16th, there to connect with the Guatemala of the Chilean line, and reach Panama on March 22, making 12 days from Valparaiso. As the steamers heretofore have required from 25 to 30 days to make this trip, the improvement will be apparent.

Between Panama and New York the journey requires only 6 days, and thus the time between Valparaiso and New York will be shortened to 18 days instead of 40 and 42. I am quite sure that the improvement will have a decidedly beneficial effect upon the business relations between the United States and Chile. Instead of waiting 3 months for an answer to a letter to the United States, a business man in Chile can expect a reply in from 36 to 40 days, a period about one-half as long as that which has been necessary heretofore.

PERU.

SUBSIDY GRANTED FOR LINE TO PANAMA.

Minister Leslie Combs writes from Lima, under date of March 9, the information that the Peruvian Congress has granted a subsidy of £30,000 ($145,995) per annum for 21 years for a fast steamship service between Callao and Panama. Mr. Combs comments:

It is expected that this service will be inaugurated a few months hence. The Chilean subsidized fast-mail service to Panama is just starting. The first steamer of this line will leave Callao on March 16, and is scheduled to reach Panama in 6 days. A translation of the new law follows:

ARTICLE 1. The term for the annual subsidy of £30,000 is hereby prorogued to 21 years, as well as that of the guaranty of the revenue of matches, granted to the Peruvian Steamship and Dock Company, of Callao.

ART. 2. During the aforesaid term all the obligations contracted by the company in its contract with the Government shall remain in force.

GREECE.

SPLENDID FACILITIES FOR SENDING AMERICAN GOODS TO THE LEVANT.

Consul Edward I. Nathan, of Patras, finds that there is in the United States a lack of knowledge concerning shipping facilities to Greece, and therefore writes, under date of March 8:

In reply to a request for quotations on goods c. i. f. Patras, a local merchant was informed by an American firm that this was impossible "owing to the lack of ocean transportation." To correct any such impression concerning the lack of communication with Greece in general and Patras in particular, is the purpose of the following summary:

Patras, situated on the west coast of Greece, has a fine, large harbor, and has assumed considerable importance for the exportation of Greek products and the transshipment of wares from the Levant. It is on the direct mail route from western Europe to Constantinople, with inward and outward bound mail service to the United States four times weekly. These mails are brought by Austrian, Italian, and Greek steamers plying between Brindisi, Italy, and Constantinople.

DIRECT SERVICE TO AND FROM NEW YORK.

There are four lines of steamships taking passengers and cargo direct from Patras to New York, the Austro-Americana Steamship Company, the Greek Trans-Atlantic Company, and the new National Greek Company, whose first large steamer is about to make its maiden voyage, and the Fabre Line. There are about fifty sailings annually in all. These lines also bring return cargo and passengers, either direct to Patras or via Trieste, Austria, or Piræus, Greece.

There is also a French line of steamers plying between Marseilles and Patras, the Messageries Maritimes, which transships passengers and cargo from New York at Marseilles and vice versa. Transshipped cargo from England is also brought by vessels from that country. In addition, a new Italian line will shortly be operated, with direct sailings from Piræus and Patras to Naples and return, which will be able to receive American cargo at Naples.

With all the foregoing lines operating in and about Patras, and with the many smaller Greek lines plying in the neighboring harbors of Greece and Turkey, it is but natural that Patras should have developed into a prominent shipping center.

The feeders of the trans-Atlantic companies, which run to Smyrna, Salonica, Constantinople, and other Turkish ports, bring thousands of tons of cargo annually to Patras for transshipment to New York. Thus vast quantities of tobacco from Kavalla, Turkey, and figs from Smyrna are sent in this way. Return cargoes of American grain, flour, and other American products are similarly unloaded at Patras for distribution in Greece and Turkey. A striking instance of the development of this transshipment trade and its effect on neighboring ports is furnished by Prevesa, Turkey, immediately opposite the Greek western border. This port annually sends large quantities of cheese to Patras for transshipment to New York, and has begun to take American flour in return.

A remarkable object lesson concerning the American merchant marine is that amid the international character of the vessels seen in the harbor of Patras, to wit, British, French, German, Italian, Belgian, Danish, Norwegian, Russian, etc., a ship flying the American flag is never seen, except on an occasional private yacht.

ENGLAND.

STATISTICS OF SHIPPING AT THE PORT OF PLYMOUTH.

Consul Joseph G. Stephens, of Plymouth, forwards the following statistics of the shipping of that English city:

In the following statement are given the number and tonnage of British and foreign sailing and steam vessels, not including mail boats, that entered and cleared at the port of Plymouth, England, during the year 1908:

Nationality.	Entered.		Cleared.	
	Vessels.	Tons.	Vessels.	Tons.
British	502	247,407	452	83,705
Russian	18	2,646	12	2,213
Swedish	13	6,195	10	4,020
Norwegian	31	17,542	17	7,508
German	13	6,448	12	6,618
Danish	14	3,181	8	1,826
Dutch	31	18,349	32	18,463
French	38	1,829	32	1,694
Spanish	2	1,372		
Italian	3	2,819	1	46
Greek	1	1,457	1	1,457
Portuguese			1	42
Total	661	309,196	578	127,087

Of mail boats, 467, of a registered tonnage of 4,501,502, called homeward, and 156, of a registered tonnage of 1,367,459, called outward.

SIAM.

A NEW STEAM FLEET FOR THE BANGKOK-CHINA TRADE.

Vice-Consul-General Carl C. Hansen, of Bangkok, transmits the following extract from the Bangkok Times of March 4, 1909, relating to a chartered fleet of steamships to run between Bangkok, Swatow, and Hongkong:

> The Chinese-Siam Steam Navigation Company, which was started many months ago, has now definitely entered into arrangements whereby a fleet of 6 steamers has been chartered for its use. The 6 boats are all Norwegian, and will be used on the Bangkok, Hongkong, and Swatow run.
>
> Two of these boats are expected to leave Hongkong on their first run to Bangkok on April 1; on the 1st of the following month two others will set out on their voyage, and the two remaining will start from Hongkong the end of May or early June. The intention of the company is to gradually bring its fleet into work. These boats will be chartered presumably until the company owns its fleet, which, it is said will be English built and skippered by Englishmen.
>
> The company has secured a splendid site for loading and unloading on the river front at Bangkok.
>
> A large number of old and influential Chinese firms are connected with the new venture, and the measure of support accorded the company will be watched with great interest by other firms interested in the trade.

BRITISH SOUTH AFRICA.

FREE PASSAGE FROM AMERICA FOR COMMERCIAL TRAVELERS.

Consul-General Julius G. Lay, of Cape Town, furnishes the following information concerning the efforts being made for the enlargement of Canadian trade in South Africa:

The Elder Dempster Line of steamships, running from Montreal to South African ports, and subsidized by the Canadian government, is offering free passage to commercial travelers, merchants, or manufacturers who are endeavoring in a bona fide manner to further Canadian export trade to South Africa. This steamship line has regular steamers for South Africa, one each month, and, when cargo warrants it, occasional intermediate steamers. These steamers are fitted up with cold-storage accommodation.

While, according to the subsidy contract, the steamers are not allowed to touch at any American port on their outward voyage except for coaling, nevertheless large quantities of cargo shipped through Canada are being brought out for American manufacturers.

The representative of the line at Cape Town has been interviewed and expresses the opinion that if the American manufacturers sending out goods by way of Canada desire to obtain the same facilities for their travelers as are given to the Canadian firms, it could be arranged by communicating with the shipping company's head office in Montreal.

AUSTRALIA.

DEPRESSED SHIPPING TRADE AT NEWCASTLE, NEW SOUTH WALES.

Consul George B. Killmaster reports as follows concerning the depressed condition of the coal and shipping trade of Newcastle, Australia, during the opening months of the present year:

There were in port on February 23, loading or to load for foreign ports, 13 sailing vessels (2 American), of 21,762 tons, and 2 steamers, of 9,536 tons, making the aggregate tonnage 31,298. On the last day of February, 1908, there were in port 45 sailing vessels (10 American), of 75,234 tons, and 9 steamers, of 37,541 tons, an aggregate of 112,775 tons, or more than 3½ times as much as it was on the first date mentioned. In January, 1908, the export of coal amounted to 444,647 tons, and in February to 444,596 tons, a total of 889,243 tons. During the first month of the present year 330,895 tons were exported, and for the first 24 days of February 203,662 tons, a total of 504,557 tons, or 384,686 tons less than in 1908. The same situation exists in the interstate trade. The cause of this trade depression is apparent. The district enjoyed in 1907 and 1908 two years of unexampled prosperity. The harbor accommodation was frequently utterly inadequate for the great fleet of vessels in port; congestion of shipping was of periodical occurrence, and many times vessels were hanging up waiting for a berth; the wharves were blocked by interstate steamers discharging and afterwards waiting for loading berths; the collieries were kept busy, the railways worked at high pressure carrying the coal to the port, and the coal-shipping appliances practically never ceased operations. In the meantime the coal yards of California, the west coast of America, the Philippines, and interstate ports were being filled with supplies. As this condition went on, coal buying eased off, as contracts had been supplied, and then came the present depression. The cause of the present slump is therefore to be found in the fact that the markets of the world are now well supplied with coal.

Supplies must, however, in the natural order of things, be used up, and then will come the demand for more coal. With that demand ships will be available and will come to Newcastle as of old. An indication that the coal trade of Newcastle is expected to revive, is the fact that orders for new vessels have been placed. A big shipping firm has ordered the construction of two large colliers and a new tugboat, which, it is said, will be the largest in the southern hemisphere. This is sufficient indication of the belief in the future prosperity of the district.

FORMOSA.

DEEP-WATER HARBOR ENCOURAGES SHIPPING.

Consul Carl F. Deichman, of Tamsui, forwards the following report on Formosan shipping:

The total tonnage of vessels entering and clearing from the ports of Formosa shows a steady increase during the past 3 years, as shown by the following statement:

Country.	1906.	1907.	1908.
	Tons.	*Tons.*	*Tons.*
Japan	112,835	197,130	211,679
England	94,067	106,705	150,126
Germany	31,775	33,492	23,324
Netherlands	7,112	5,414	6,632
Norway	9,803	5,504	5,166
United States	25,617	18,585	43,752
China	826	....	....
Denmark	2,489	2,756	....
Sweden	1,977	....	....
France	....	5,304	1,991
Total	286,491	374,890	442,670

The rapid increase in the register of Japanese tonnage is due to the fact that the Japanese Government is encouraging the trade relations with her colony by giving subsidies to the steamship lines and by fostering Formosan industries.

The increase in the tonnage of English and American shipping is the result of the improvement made in the harbor of Keelung, so that vessels of large draft can enter the harbor in perfect safety and load cargo. The large vessels of the trans-Pacific lines now call there for tea destined to America via the Pacific or via Suez and the Atlantic Ocean.

IRREGULAR CALL OF SHIPS—SAILING VESSELS.

The increase or decrease in the tonnage of vessels from the other countries can not be taken as an indication of the increase or decrease of the volume of business, as it in most cases represents the occasional calling of vessels flying the flags of those countries.

The following statement shows the sailing-vessel tonnage of Formosa for the past three years:

Sailing vessels.	1906.	1907.	1908.
	Tons.	*Tons.*	*Tons.*
Japan	9,129	8,377	8,564
China	34,543	26,184	27,825
England	922	....	86
United States	....	....	2,950
Total	44,594	34,561	39,375

The gradual decrease in sailing vessels from Japan is due to the fact that they have been supplanted by steamships, and not to a decrease in the volume of business between the mother country and Formosa. The tonnage for the United States is that of two sailing vessels that brought lumber and piling from Puget Sound for the harbor works at Keelung, and it is doubtful if this will continue as a feature of the trade between Formosa and the United States.

The total tonnage of all vessels for the year 1908 shows an increase of 73.594 tons over that of the previous year, and 151,960 tons more than in 1906.

HARBORS AND RIVERS.

ENGLAND.

EXTENSIVE DEEP-WATER HARBOR PLANNED FOR PLYMOUTH.

Consul Joseph G. Stephens, of Plymouth, advises that a bill is being promoted in the British Parliament to permit the construction of an ocean harbor in Wembury Bay, a short distance to the eastward of Plymouth Sound and immediately adjacent to the rocky islet known as the Mewstone. The details of the enterprise follow:

How important a feature this scheme is to the world's mercantile marine can be gathered from the fact that there is not a port in Europe, and but few, if any, in the world, where the matter of tides is of no consequence. Most steamers of any size, when approaching their destinations, are confronted with the problem whether they will be able to catch the tide. Southampton has double tides. Owing to the position of the Isle of Wight, the Hampshire port has the advantage of high water four times in the course of 24 hours, which affords extraordinary facilities for vessels entering the docks. In this respect the new scheme would place Plymouth in even a more advantageous position, for the state of the tide will not be a very material factor to ships using the proposed harbor, as there will always be deep enough water to accommodate them and it will be possible for them to come straight in from sea and take up their berths.

THE DEEP HARBOR PROBLEM.

Another important factor to be considered in this connection is the size of modern liners. With the employment of larger steamers, with their vastly enhanced draft of water, there has arisen a problem which has caused a great deal of anxiety among many port authorities on both sides of the Atlantic. With great activity and energy, a new deep-water channel has recently been constructed at the great port of New York, while at Liverpool, Southampton, London, Cuxhaven (Hamburg), and Bremerhaven (Bremen) dredging has to be constantly carried on and at enormous expense. At Wembury Bay these disadvantages would not exist, and it would be possible at all times of the day and night and at all stages of the tide for the largest steamers afloat or building to proceed to their berths which it is hoped to construct in the new harbor.

While shipbuilders and shipowners have hastened to increase the size of vessels, dock engineers have wondered where the limit of size would end and where such vessels could be accommodated with a home or terminal port. Intricate and narrow, winding channels must of necessity be forsaken by the huge vessels of the future, and such craft will have to depend upon a harbor that is so situated by nature that it can extend its arms into the sea, and so form a secure and sheltered dock, which will be accessible almost from the open sea. Such is the idea of the promoters of the present scheme, as discussed by their engineers and the local press. They contend that if they are empowered to proceed with their plans and develop Wembury Bay in the manner they suggest, they will succeed in constructing a harbor the geographical position of which, combined with the necessities of the future, will insure it a no mean share of the world's commerce.

The scheme of development of Wembury Bay provides for the construction of a short breakwater between the Mewstone and the mainland. This will be 2,600 feet in length, and being 25 feet in height above the high-water mark (as all the sea embankments or breakwaters will be) will afford complete shelter from the northwest. From the Mewstone itself will be run out seaward in a southeasterly direction a breakwater over 4,000 feet in length. A corresponding one is to be built from Gara Point, and will be 2,200 feet in length, the entrance between the two being 1,800 feet. Inclosed will be an area of over 1,000 acres of water, which would make the greatest dock in the United Kingdom. Within this it is proposed to construct from near the old Wembury mill a pier 4,200 feet long, extending in a southerly direction, but terminating 1,200 feet from the embankment which is to run seaward from the Mewstone. This will create an inner and a sheltered harbor, the area of which will be reduced owing to the construction of quay walls, which will originate about halfway down the Mewstone breakwater and will be extended around the section of the bay until it comes in contact and joins with the embankment near the old mill.

The area of water thus closed is about 235 acres, and the piers are so arranged that the engineers and nautical experts are convinced that the harbor would be so effectually sheltered from all storms that the largest vessels could lie at their moorings in perfect security, whatever the weather, the entrance being so thoroughly masked and protected from the seas. In this inner harbor it is intended to extend from the eastern and northern sides five or six radiating piers, each of which is to be over 2,000 feet in length. In this way there will be practically formed six or more inclosed docks, while over half the area there will be to all intents and purposes 48 feet of water available without any or very little dredging or deepening being required.

DREDGING QUAY SPACE, RAILROADS, ETC.

Powers are sought in the bill to enable the promoters to do what dredging is necessary, so that at any time, if thought expedient, the entire harbor could be deepened to 48 feet at low-water springs. There will be over 7 miles of quay space available, 11,600 feet being the extent of the quays inside the dock, while if only five piers are built, there will be an additional 20,000 feet, besides which there will be the 3,300-foot pier, which it is intended to use for vessels simply making the harbor a port of call for the purpose of landing mails and passengers, and the entire area will be served by the railway, as it is suggested that trains will be able to run down the quays and alongside the steamers there, so that passengers will be enabled to step direct from the baggage warehouses into the trains. Provision is made in the plans for the construction of a double line of rails on each pier, so that ships in either berth would have adequate service and would suffer no delay. The extent of railway to be erected to connect Plymouth with the docks is 4½ miles. The time from the docks to London would be under 4 hours.

Recognizing that no harbor could be complete in itself without ample graving dock accommodations, the promoters contemplate the building of two large dry docks, one being 1,000 feet in length and the other 1,100 feet in length, which would of course be sufficiently large to accommodate the biggest ships afloat or even yet contemplated.

The harbor would be available for traffic in 3 years, but 5 years would be required, according to the engineers, to complete the whole of the works. The cost of the scheme is estimated at £2,000,000, or approximately $10,000,000.

WALES.

IMPROVED HARBOR FACILITIES AT SWANSEA.

Consul Jesse H. Johnson, of Swansea, forwards the following report on improved shipping facilities of that South Wales city:

American exporters should ship direct to Swansea and not via other ports in the United Kingdom. By so doing the exporter in America could avoid railroad transportation on this side, and thus obtain more favorable freight rates. Swansea as a shipping port is growing rapidly. There is splendid warehouse accommodation here, and before the close of the current year a new dock will be opened which will enable vessels to enter or leave at any state of the tide. It will be one of the finest and best equipped docks in the United Kingdom, and will mark the progress Swansea has made as a shipping port.

The business done between South Wales and America is extensive, and there is good reason to presume that it will increase. Local importers are favorably inclined toward American goods, but they maintain that they could purchase to better advantage by dealing direct with American exporters.

In 1908 the port of Swansea was visited by 5,699 vessels as compared with 5,547 for the preceding year. The trade of the country last year showed a falling off in almost every branch, but the total trade of Swansea shows an increase of 114,432 tons as compared with the previous twelve months. The imports showed an increase of 43,000 tons, while the exports disclosed an increase in coal of 118,356 tons. The shipment of tin plates amounted to 361,816 tons.

The imports of pitwood were 36,000 tons more than in the previous year, and there is no reason why the American lumbermen should not share this business.

CHINA.

CONSERVANCY WORKS AND DIKE CONSTRUCTIONS ON THE KWANGHO.

Vice-Consul-General C. L. L. Williams, of Chefoo, transmits the following report, prepared by Mr. A. W. Gilbert, of the consulate, on the conservancy works of the Kwangho, or Yellow River:

The imperial maritime customs coast inspector, Capt. W. F. Tyler, made two reports upon his observations of the dike constructions of the Kwangho (Yellow River) in Honan and Shantung. These reports were condensed and published in January, 1906, and may be purchased from any agency handling the imperial maritime customs' publications. The volume deals very minutely with the various methods which have been immemorially practiced in the construction of dikes, groines, etc., from alternate layers of kaoliang (the roots facing the water) and earth, sometimes faced with willow matting or stone, or protected by rubblestone aprons, i. e., rock dumped down at the base of the dike in order to prevent undermining.

The control of the river in Shantung is delegated by the governor to three river taot'ais, who are respectively responsible for the upper, middle, and lower sections of the 467 miles of "China's Sorrow," which since 1852 has persisted in its usurpation of the course of another river. These taot'ais have under them six military captains, who are in turn provided with the customary subordinates. All these river officials are men who have spent their lives upon the river, Some of them knew the river when its outlet was in the Yellow Sea, nearly 500 miles to the southeast, before it spread ruin and terror in its search for a new passage, and finally found it (1852) in the bed of the Ta Ch'ing Ho (Great Clear River), which was then 60 feet below the level of the plain, but on account of its annual deposit of silt, 11 inches, the great Ta Ch'ing cut, as well as the valley, has disappeared, and in its stead, some feet above the level of the plain, flow the sullen and turbulent waters which will not be curbed.

NONSYSTEMATIC REPAIRS.

In 1885 the governor of Shantung granted the long-sought permission to the villagers living on its banks, to dike their respective sections at their own expense. The central Government had previously built dikes allowing considerable latitude for the vagaries of the river, but the inhabitants thought it too wasteful of good land. They accordingly built their dikes at will, with no apparent thought of the future. This resulted in very irregular dikes as to width and direction, between which the restless river is now restrained and, because of the enormous silt deposits, these dikes must be constantly guarded and repaired. In the meantime, the space formerly inclosed by the more ancient dikes, has been densely populated, and is in constant danger from the menacing flood. The annual outlay for protection against the river is 3,500,000 taels, and the annual loss sustained by floods, etc., along its course, is 1,500,000 taels, or a total of 5,000,000 taels ($2,860,000 gold). The annual appropriation for diking, etc., in Shantung is 600,000 taels ($343,200 gold). According to the customs inspector, each river official is responsible for but one side of the river, and works apparently independent of his colleague on the other side.

[Some extracts taken by Mr. Gilbert from a book by a British author on the history of the stream in question may be seen at the Bureau of Manufactures.]

BRAZIL.

CONSTRUCTION OF A FLOATING DRY DOCK AT RIO DE JANEIRO.

Consul-General George E. Anderson, of Rio de Janeiro, under date of March 8, submits the following report on the plans for the construction of a great floating dry dock to accommodate war and merchant vessels, and especially the new war ships of the Dreadnought type now being constructed in England for the Brazilian Government:

The construction of this dry dock of the floating type has been determined upon as the alternative of the construction of a fixed dock heretofore planned and partially arranged for by the Government, the construction of which, however, is given over, for the time being at least, both on account of the expense and on account of the length of time required for its construction. The floating dock now to be purchased is, according to the outline of the Government's requirements upon which bids were asked, to be of the "self-docking, floating, steel dock" type (the words quoted are in English in the Portuguese document), capable of receiving vessels of war and merchant vessels of the largest size, "and above all the great war ships of the type of the Minas Geraes, which have a length of 543 feet," etc. The dock will have a length of 543 feet, or 500 feet between perpendiculars. It is to have a width of at least 83 feet at the mouth, a depth of 42 feet 3 inches, and a keel length allowance of 428 feet, its measurements thus providing for berthing a vessel with a displacement of 19,295 tons or less.

EFFICIENCY AND EQUIPMENT.

The dock is to have three compartments formed by transverse sections. When submerged the riders or blocks must be at least 30 feet below the level of the water, while the outside walls of the dock must be at least 8 feet above the level of the water. The dock must be capable of "sustaining 22,000 English tons or 22,352 metric tons;" it must be so equipped that it can be floated with the riders dry in four hours from the beginning of work; it must allow plenty of free working room about vessels of the Minas Geraes type; each section must be usable separately and must be equipped with its own pumping system. The whole is to be equipped with electric or hydraulic cranes, windlasses, etc., with electric light and power. In addition to the requirements thus outlined the Government asks for a modern, finely equipped docking plant, capable of handling the largest ships likely to come to Brazil for some time to come.

FOREIGN SHIPBUILDING.

GERMANY.

EFFECT OF EXCESSIVE SHIPBUILDING ACCENTUATED BY CRISIS.

Consul William Thomas Fee, of Bremen, forwards the following report on shipbuilding:

Shipowners as well as shipbuilders had to endure very unfavorable conjunctures during the year 1908, but they should hold themselves responsible, inasmuch as they built and ordered to be built such an excessive number of vessels that the increase in the quantity of freight could not possibly keep pace with the increase of tonnage of vessels. A weakened freight market was therefore inevitable.

The following table shows a comparison of the net tonnage of the mercantile fleet of the world for the years 1905 and 1908:

Year.	Steamships.	Sailing vessels.	Total.
1908	20,633,000	6,994,000	27,627,000
1905	17,800,000	7,620,000	25,420,000
Increase or decrease	+2,833,000	−626,000	+2,207,000

Considering the superior freight-carrying capacity and the large increase in tonnage of steamships, the decrease of tonnage of sailing vessels is insignificant.

The financial crisis of 1907 has chiefly affected the passenger traffic, and especially the transportation of emigrants to the United

States. The unfavorable condition of the freight market, however, would have set in, even without the crises of 1907, on account of the overproduction of ships.

PAST THREE YEARS SHOW DECREASE.

The following table shows the gross tonnage of mercantile vessels built during the years named:

Average per year from—	United States.	England.	Germany.	Japan.	Total.
1892–1897	69,000	1,010,000	965,000	4,000	2,304,000
1898–1905	308,000	1,525,000	205,000	23,000	2,261,000
During 1906	441,000	1,828,000	318,000	42,000	2,920,000
During 1907	475,000	1,608,000	275,000	66,000	2,778,000
During 1908	306,000	930,000	208,000	60,000	1,833,000

The decrease since 1906 is marked. During the last year it amounted to fully a third and during the last two months to even more. In England, during the last two years, shipbuilding lessened one-half, in Germany to two-thirds, and in the United States to a trifle more than two-thirds of its former extension. Japan, Holland, and Norway were least affected, while Italy suffered relatively the largest decrease of all. France, after years of continuous decrease, shows a little increase in 1908. In consequence of excessive activity in shipbuilding, England, as the largest shipbuilder, suffered the most, and especially so did her enormous fleet of freight vessels.

It will be seen by the foregoing table that from 1892 to 1897 England built 77$\frac{4}{10}$ per cent of all vessels, while in 1908 only 50$\frac{7}{10}$ per cent of the mercantile vessels of the world were constructed in English yards. Germany's share, during the same periods, increased from 7$\frac{3}{10}$ to 10$\frac{8}{10}$ per cent, and the United States, Holland, and Japan show a still larger increase.

It may be noted that in England an increase in shipbuilding is now again noticeable. The tonnage of mercantile vessels under construction has increased during the three months ended with January about 31,000 tons.

JAPAN.

SHIPBUILDING IN THE EMPIRE DURING THE PAST YEAR.

Vice-Consul-General E. G. Babbitt, of Yokohama, forwards the following statistics, taken from the Japan Advertiser, of that port, covering the shipbuilding industry of the Empire in 1908 as compared with 1907:

> The Japanese imperial dockyards were occupied mainly in fitting out vessels built in previous years and in the reconstruction of ships captured in the late war; their new tonnage is therefore comparatively small. The armored cruiser, Ikoma, of 14,000 tons, was completed and commissioned early in 1908, and her sister ship, the Ibuki, fitted with Curtis turbines, is ready for speed trials. In mercantile work perhaps the most notable launch was that of the large floating dock at Kobe, by the Mitsu Bishi Company. This dock was built entirely of home-made steel. The two 8,600-ton steamers launched by the Kawasaki Company for the Nippon Yusen Kaisha are the largest vessels yet built by this firm, and the volunteer fleet steamer Sakura Maru, by the Mitsu Bishi Company, is the first ship fitted with turbines made in Japan. New contracts have practically ceased since the beginning of 1908, and the trade is now becoming seriously depressed. At the Mitsu Bishi Works 8 vessels, of 62,000 tons and

52,100 indicated horsepower, are building. Among these are a third turbine liner for the Toyo Kisen Kaisha, the second turbine for the Japanese volunteer fleet, and 6 other steamers. Most of these will be completed in 1909. The Kawasaki Company have 13,200 tons of new work, including 2 cargo steamers of 12,000 tons and a few torpedo craft for Siam, and the Osaka Iron Works have an auxiliary sailing ship and a few dredgers. A large number of oil-motor fishing smacks are being built in Japan, and it is stated that more than 200 of these craft will be afloat in the spring of 1909.

The following statement shows the number of vessels, and their tonnage and horsepower, constructed in the Japanese shipyards in 1907 and 1908 (the number of vessels for 1907 is not being given in the returns):

Shipyards.	1907.		1908.		
	Tons.	Indicated horsepower.	Vessels.	Tons.	Indicated horsepower.
The Imperial Dockyards	53,100	88,500	2	760	12,000
The Mitsu Bishi Works	37,698	55,020	4	32,250	24,348
Kawasaki Dockyard Co	17,417	26,900	9	24,410	20,750
The Osaka Ironworks	6,729	4,981	23	7,720	3,022
Ishikawajima Co	1,364	1,401	12	1,388	520
The Ono Shipyard	702	870	3	1,130	870
The Fujinagata Shipyard	137	250	1	417	250
The Uraga Dock Co	89	305	5	367	452
Other firms	10,516	9,501	132	10,816	7,515
Total	127,752	187,728	191	79,258	69,727

URUGUAY.

GOVERNMENT OFFERS FREE ENTRY OF MATERIALS AS ENCOURAGEMENT.

Consul Frederick W. Goding, of Montevideo, gives the following account of the step which Uruguay has taken to encourage shipbuilding there:

During the year 1888 the Uruguay legislature enacted a law providing for the free entry of machinery, wire, and quebracho wood of a length not exceeding 1 meter (39.37 inches), for the purpose of giving encouragement to the repairing and building of vessels in this Republic.

As little advance was made, an act has recently been passed providing for the free entry of such materials as are necessary for the construction, installation, working, and preserving of the dockyards, shipyards, and dry docks now or to be established, for a term of 25 years. The free entry of materials includes those necessarily used in the construction of dwellings of employees and in naval construction and repairs, all of which must be the property of the owners of the yards and docks referred to. Violation of this feature of the law will be considered as smuggling.

If vessels built or repaired under the provisions of this law are sold or leased within 5 years of such date, they remain subject to the payment of duty on all materials used. For the protection of the customs, an account current will be kept with each owner of all materials used, which is to be balanced every 12 months, after proof has been furnished as to the exemption of the materials.

Government vessels may at any time, subject to their turn, use the docks and yards without charge, paying the cost price only for material and labor employed. Each establishment benefited by this law is required to receive and instruct, in the trades practiced, a certain number of poor children to be apportioned by the Government, and 50 per cent of their workmen must be citizens of Uruguay.

As this law will give an impetus to the building of vessels sent here "knocked down," and to the repairing of them, an opportunity is presented for American exporters to supply the materials and machinery used in such work. There are very extensive shipyards and docks here at the present time, where large quantities of material are used, and the effect of the new law will be to greatly increase them.

NEW PORTS IN CHINA.

PROPOSED OPENING OF SEVERAL PORTS TO FOREIGN TRADE.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information relative to a proposed opening of new ports in China and regulations for the opening of new commercial centers or ports:

It is stated that the Bureau of Foreign Affairs and the Minister of Agriculture, Industry, and Commerce have agreed on a set of special regulations for the opening of new commercial ports or centers. These are based on the principle of strict distinction between a settlement and a commercial port. They comprise four main points: (1) China will herself open the ports; (2) foreigners will be allowed to trade in these ports, but not to have hongs or stores therein nor to own land in the interior; (3) the Chinese authorities will protect the port with Chinese troops; (4) foreign interference in local administration will be restricted.

LIENSHANWAN AND TACHIHUAN.

It is stated that the Chinese Government has again surveyed the Lienshanwan Harbor in regard to its suitability for a port. It has been found that it is admirably adapted for a commercial port, as the Fox Island is free of ice all the year round. A plan has been drawn up by a British engineer and work will be commenced on it later this spring. As Lienshanwan is nearer by land to Fakumen than Talienwan and is an ideal harbor, it will, when opened to trade, rival the latter, from which much of the trade of the West Liao region is expected to be diverted. The Japanese are aware of the importance of the step and the effect it will have on Talienwan, and the matter was discussed at a recent industrial meeting, at which it was decided to send a deputy to inspect the place and report on the same.

With reference to the plan of certain gentry to found a commercial port at Tachihuan, in the Hsiangshan district, near Canton, Kuangtung Province, it has been ascertained that the tract is a flat plain of hard soil, measuring, approximately, 3 miles north to south and 1½ miles east to west. Fortunately, no obstacles are in the way, and it is on the seacoast, with the Yeligshan Island giving it shelter. It is navigable to steamers from Hongkong and Macao, and there is also an inlet for smaller vessels; in fact, a natural harbor for a port. The subprefect who was appointed to report on the scheme reports that it is proposed to make it a special resort for the residence of Chinese who return from abroad. All surveys and works are undertaken by Chinese.

RAILWAYS.

FOREIGN DEVELOPMENT.

CHINA.

TRANSACTIONS OF THE SOUTH MANCHURIAN RAILWAY COMPANY.

Consul Roger S. Greene, of Dalny, forwards the following report of transactions of the South Manchurian Railway Company in its various lines of activity for the half year from April 1 to September 30, 1908:

The gross earnings from all the departments of the South Manchurian Railway Company for the first half of the fiscal year of 1908–9 was $3,465,753, and the expenses, including interest on bonds, to $3,081,399, leaving a profit of $384,353, equivalent to a return of 1.6 per cent per annum on the capital stock. The small returns are accounted for in part by the fact that the income on railway traffic is lighter during the first half of the fiscal year than in the second half. Another circumstance that effected the returns was the change from narrow to standard gage, which was effected during the period under review. The interest account, amounting to $648,263, also helped to reduce profits.

The company, besides its railway interest, has investments in coal mines, electrical plants, wharves, hotels, and a steamship. The railroads yielded a profit during the half year under review of $889,011, the coal mines of $252,166, and the electrical plants of $7,656. During the same time the hotels at Dalny and Port Arthur were conducted at a loss of $2,737, the steamship line making weekly trips between Dalny and Shanghai resulted in a loss of $16,793, the income from wharves ran $4,188 behind expenses, and local settlements incurred a loss of $39,198. The confidence of the company in its Manchurian enterprises is shown by the following expenditures during the half year for improvements or extensions of its various plants: Railways, $7,538,143; electric plants, $79,679; harbors, $516,899; shops $174,222; hotels, $7,202; miscellaneous buildings, $713,258; lands, etc., for local settlements, $929,239; coal mines, $827,164, making a total expenditure of capital of $10,785,806.

PLANTS, EARNINGS, AND EXPENSES.

The company's mines produced 204,529 long tons of coal, of which the company used 152,012 tons, and sold $658,606 worth. The electric plant at Dalny is furnishing power equivalent to 11,017 lights of 16-candlepower, while the plant at Mukden furnishes power equivalent to 1,099 lights of 16-candlepower. The steamship service had only 190 passengers and 495 tons of cargo in the first six round trips, but its business is increasing.

In the following table are given, in American currency, the gross receipts and the running expenses of the various enterprises operated by the South Manchurian Railroad Company for the first half of the fiscal year 1908–9:

Classification.	Earnings.	Expenses.	Classification.	Earnings.	Expenses.
Railways	$2,186,376	$1,298,796	Interest on debentures		$650,869
Shipping department	2,916	19,777	Payment to meet difference between proceeds and face value of debentures		67,256
Mines	661,252	408,072	Total	$3,479,678	3,098,779
Harbors	159,898	164,108			
Local settlements	69,977	109,828			
Hotels	36,483	39,234			
Electrical plants	48,365	40,668			
Miscellaneous	314,411	300,679			

GRANTING OF REBATES TO SHIPPERS.

Rebates amounting to $115,635 gold were allowed by the South Manchurian Railway during the year ending September 30, 1908. The rebates are not payable until the expiration of six months after the end of the year for which they are allowed, but an arrangement has been made by which the shippers can get their money immediately by discounting their claims. Of the 15 companies that qualified for rebates, all except the Mitsui Bussan Kaisha are forwarding agencies engaged mainly in handling freight for other merchants, though most of them also do business on their own account. Practically all the freight carried by the railroad is handled by these companies.

The competition between the forwarding agencies has been very keen, with the result that they offer to shippers paying annually 10,000 yen ($4,980) freight a rebate of 3 per cent, payable immediately, whereas the railway company only offers 3 per cent on 100,000 yen ($49,800), payable six months after the expiration of the year, and at the same time the agencies attend to the shipping of the goods, assume responsibility for shortage, etc., without any charge except for amounts actually expended on account of stevedoring and the like. They also attend to custom-house formalities for a nominal fee, and often pay the duties for clients in the interior, collecting the amount on delivery of the goods.

HOW FORWARDING AGENTS MANAGE TO PAY REBATES.

If the freight paid does not amount to $4,980 no rebate is given by the forwarding agency, but it makes no charge for the important services it performs, and the small foreign shippers expressed themselves as satisfied with the fairness of the arrangement. On the other hand, when the quantity of freight is very large a higher rebate than 3 per cent may be secured.

Those forwarding agencies which in this way get together a large business reimburse themselves by qualifying for the higher rebates in the railway company's sliding scale up to 7 per cent on business amounting to over $249,000. By means of the combination effected through them the ordinary shippers have been able to profit by the rebates that could otherwise be enjoyed only by a few large merchants.

[A subsequent report from Vice-Consul A. A. Williams, of Dalny, states that the South Manchurian Railway has issued an order abolishing their rebate system after September 30, 1909.—B. of M.]

CHANGES EFFECTED IN MANAGEMENT OF ROAD.

At the close of 1908 a radical reorganization of the South Manchurian Railway Company was effected, the changes being mainly in the line of simplifying the organization by abolishing unnecessary departments, dismissing superfluous employees, and in general placing the administration of the company more on a business basis. The new company has adopted the policy of training Chinese to fill as many positions as possible of the inferior grades in the railway service, with the expectation that, eventually, almost all the station and train hands will be Chinese. Two reasons have been given for the adoption of this policy. The first is the saving in wages, as the Japanese in Manchuria must be paid at least twice as much as the Chinese who do the same work. The second reason is that since the principal patrons of the line are Chinese it is thought, other things being equal, that Chinese railway employees would be able to deal with them more satisfactorily than could Japanese. It will take a long time to make the change, since experienced Chinese railway employees can not be secured immediately. No marked change has yet been made in this direction, however, but it may be noted that the Chinese employees who, on April 1, 1907, constituted 40 per cent of the force, are now 45 per cent of the total number of ordinary employees. A number of new positions have been created by the appointment of seven division superintendents for the main line, each supervising the work of maintenance of way, care of rolling stock, administration of settlements, and control of receipts and expenditures in his division.

Mr. Kunisawa, the new vice-president, was the only one among the original eight directors of the company who had actual experience with railways. He is an engineer by profession, and received his technical education at the Imperial University in Tokyo from which he graduated in 1887. It should prove of great advantage to the company to have in the important position of vice-president a man with such long experience in practical railway affairs.

ANTUNG-MUKDEN RAILWAY.

PLANS ADOPTED FOR THE RECONSTRUCTION OF THE LINE.

Vice-Consul-General Frederick D. Cloud, of Mukden, is informed both by the Chinese authorities and the Japanese consul-general that the reconstruction of the Antung-Mukden Railway will be begun shortly. Mr. Cloud writes:

Permanent survey work was begun in January from the Antung end of line and three of the most important tunnels have already been located and all preliminary drafting completed. The route adopted by the engineers will not vary much from the present line, except that the terminus will be moved southward across the Hun River to Suchiatun, on the main line of the South Manchuria Railway, a distance of some 10 miles from Mukden. By thus changing the terminus from Mukden to Suchiatun the necessity for bridging the Hun River will be obviated and the line shortened a few miles. Suchiatun is already the junction of the branch line to the Fushun collieries, having the necessary yards and transshipping facilities. There will, therefore, be a considerable saving to the company by adopting Suchiatun as the terminus of the Antung line. It is said that the new route, i. e., from Antung to Suchiatun, will be 20 miles shorter than the present Antung-Mukden line.

It is estimated by the Japanese that it will require three years to complete the work of reconstruction and that the average cost per mile will be approximately 100,000 gold yen ($50,000).

BRAZIL.

STRIKE DELAYS EXTENSIVE RAILWAY IMPROVEMENTS.

Consul George A. Chamberlain, of Pernambuco, reports that the successful strike of the employees of the Great Western of Brazil Railway Company, Limited, has modified the railway outlook for the states of Pernambuco, Alagoas, Parahyba, and Rio Grande do Norte. The details follow:

The original demands of the Brazilian employees of the railway were: (1) Increase of 50 per cent for the employees whose salaries do not exceed 250 milreis (about $83) per month and of 20 per cent for those whose monthly salaries were above 250 milreis. (2) Two days' rest, at least, per month for engineers, firemen, and conductors, without diminution of salary and without obligation to present themselves at the shops, stations, or offices. (3) Responsibility of the company toward its employees for accidents in work. (4) Sick employees to be kept in their positions without diminution of salary during illness. (5) Abolition of obligatory removals. (6) Employees and their families to receive, during the year, two more free passes. (7) Daily pay for employees when on duty away from the shops or from their places.

The strikers suddenly returned to work on the announcement that the governor of the state was to act as arbitrator. Later it was learned that the basis of agreement was a concession on the part of the railway of an increase of 30 per cent to employees receiving a monthly salary of $30.75 or less; 20 per cent to those receiving between $30.75 and $76.88, and 10 per cent to certain classes of employees receiving a daily wage. The railway is thus pledged to an additional outlay of about $75,000 in wages.

Up to the time of the strike the railway had under immediate contemplation the construction of a large central station in this city, to take the place of the three stations now in use, whose lines have already been linked up; the prolongation of its various lines, especially of the branch which terminates at Vicosa, in the State of Alagoas, and the building of extensive shops and roundhouses. The money to cover these expenditures was to have been raised by loan in Europe, but it is doubtful if an issue will be attempted for some time to come.

BRAZILIAN-BOLIVIAN LINE.

MADEIRA-MARMORE RAILWAY LEASE TO AMERICAN COMPANY.

From Rio de Janeiro, Consul-General George E. Anderson writes that the construction of the Madeira-Marmore Railway, the line which will connect the Marmore River with the Madeira River and pass around the falls, which have heretofore made a direct commercial route from Bolivia to the Atlantic Ocean an impracticable matter, is being pushed with all the rapidity possible. The plans are thus described:

This railway is being constructed by the Brazilian Government under the Treaty of Petropolis, in which Bolivia ceded, for a consideration, all its rights in the Acre territory to Brazil, and the latter, among other considerations, agreed to build the railway, of which about 56 miles have been constructed, and the extension of which can be rapidly pushed. The Brazilian Government proposes to lease the railway when completed to a syndicate which will operate it. In a decree the President authorizes a contract of lease with the Madeira-Marmore Railway Company, the American construction concessionaire, for 60 years from January 1, 1912. The first section which it is planned to deliver runs from Porto Santo Antonio, on the Madeira River, to Jacy Paran, farther up the river. The rental will be 20 per cent of the road's net revenue in excess of 12 per cent interest upon the capital invested. In addition, there is to be an actual rental on the annual gross revenue to the Government of 5 per cent from January 1, 1912, to December 31, 1931; 10 per cent from January 1, 1932, to December 31, 1951; and 20 per cent from January 1, 1952, to December 31, 1971. The company has not yet accepted the terms of this presidential decree, but it is understood that it will be accepted with slight if any modifications.

CHILE.

CONSTRUCTION OPERATIONS FOR THIS YEAR.

Reporting that the outlook for railway construction in Chile for 1909 promises well, Consul Alfred A. Winslow, of Valparaiso, outlines the plans:

The Chilean Government has several lines under construction, two important lines about to be let, and the following new lines are to be begun during the year at a total cost of $2,914,736 United States gold:

Line.	Length.	Width.		Cost.
	Miles.	*Ft.*	*In.*	
Alcones to Pichilemu	14.88	5	6	$1,860,371
Linares to Panimavida	20.46	2	3.6	203,620
San Clemente to Colorado	17.36	3	3.36	236,220
Rancagua to Donihue	13.00	3	3.36	205,870
Selva Oscura to Cura Cautin	17.98	3	3.6	306,455
Union to Rio Bueno	7.44	2	3.6	102,200
Total	91.12	....		2,914,736

This should open a good field for American railway material and supplies. The Government is about to advertise for 3,000 tons of steel rails for work on the Arica to La Paz railway, and it will be well for American interests to keep in touch with the Direccion Joneral de Obras Publicas, Santiago, Chile, for it has these matters in hand.

NICARAGUA.

CONTRACT MADE FOR NEW LINE FROM OCEAN TO LAKE.

Consul José de Olivares forwards from San Juan the copy of a contract between the Nicaraguan Government and private parties for the construction of a railroad between the Pacific port of San Juan del Sur and the port of San Jorge or other ports on Lake Nicaragua, concerning which he says:

This contract was entered into and approved by the Nicaraguan National Assembly in January, 1908, but was not published in the

Gaceta Oficial until February 20, 1909. While the proposed road would open up rich agricultural country and greatly facilitate transportation in southeastern Nicaragua, the parties holding the contract have up to the present time been unsuccessful in securing the capital necessary to the consummation of the project. [The address of the contractor and the Spanish text of the contract will be given to interested parties on application to the Bureau of Manufactures.]

MEXICO.

PLANS FOR NEW LINE BETWEEN MONCLOVA, COAHUILA, AND CHIHUAHUA.

Consul Thomas W. Voetter, of Saltillo, writes that the development of the Mexican project for the construction of a railroad between Monclova, Coahuila, and Chihuahua, in Chihuahua, is progressing, as the following indicates:

I have been informed that contracts have been signed by the state governments of Coahuila and Chihuahua by the terms of which a subsidy of about $4,000 United States currency per mile will be granted the enterprise. This is estimated by an engineer well acquainted with the route of the proposed road to be sufficient for grading and bridges. Arrangements have been made with French banking interests for the sale of the bonds necessary to complete the road. It will be about 300 miles in length and will be an independent concern, though ultimately the line may be acquired by the national system, according to the terms of the federal concession which has been obtained. The organization of the staff for the actual construction of the line has not yet been announced. [Further particulars concerning the organization of this company and its plans may be obtained from the Bureau of Manufactures.]

CUBA.

IMPORTANT EXTENSION WILL DEVELOP NEW REGION.

Consul R. E. Holaday writes from Santiago that new railroads are constantly being planned in Cuba, and it is probable that in the next two years several new roads and important extensions to those already constructed will be built or be building.

The contract and plans submitted by the Cuba Railroad Company for building a railroad from Marti, a station on the main line of that company, to pass through Bayamo, Santa Rita, Jiguani, Baire, and Palma Soriano, and connect with the main line again at San Luis; and also a branch from Bayamo to pass through Veguita and Yara to Manzanillo, were approved on March 25 by President Gomez.

The new extension will be about 175 miles long, and is to be completed in May, 1911. The company will receive a subsidy of $9,600 per mile. The proposed extension is entirely in the province of the Oriente, and will open up a fertile territory adapted to the production of sugar and tobacco. It is stated that the railroad company proposes to construct a large sugar mill, similar to the one it owns and operates at Jatibonico, in Santa Clara Province, in this district, which will be ready for operation as soon as the road is completed. The main offices of the Cuba Railroad Company are at Camaguey.

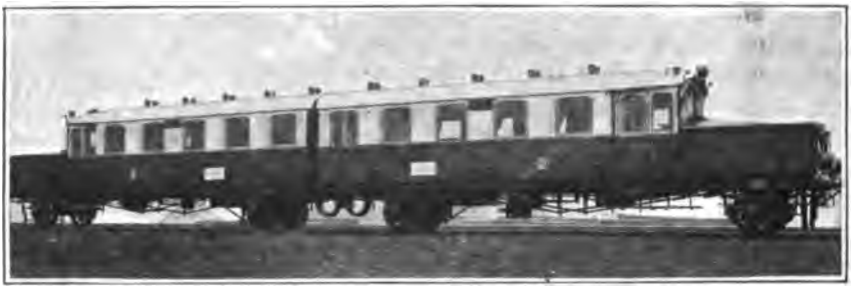
ELECTRICAL DOUBLE COACHES.

NEW STYLE MOTOR CARS BUILDING FOR PRUSSIAN RAILWAYS.

Consul Southard P. Warner, of Leipzig, advises that the Prussian railway authorities have ordered 57 new accumulator double coaches (Akkumulator-Doppelwagen) for use in those sections of the country where the passenger traffic is so light that it would not pay to operate regular trains drawn by steam locomotives. A description of these new cars follows:

These double coaches are composed of two nearly identical sections coupled very closely together. It was found to be impracticable to have single coaches, as in order to have the desired seating capacity they would have to be constructed of such length as to render them unsuitable for use on tracks containing anything more than very moderate curves.

As will be seen from the accompanying illustration, these coaches differ from ordinary cars in that they have a tank constructed at either end. These tanks, which are only slightly more than half as high as the remainder of the coach, contain the accumulator batteries. The batteries are composed of 168 cells, half of which are located in the front tank and half in the rear tank. As the tanks containing the batteries are entirely isolated from the passenger compartments, travelers will never be annoyed by the acid fumes.



Electrical double coaches for use on Prussian railways.

The electrical equipment of these coaches, which is as simple and as durable as it is possible to have it, consists of two 80-horsepower electro-motors. The battery has a tension of 310 volts and a capacity of 368 ampere-hours. The coaches weigh about 55 long tons and can attain a maximum speed of 31 miles an hour. They will have a seating capacity of about 100, besides an extra compartment for the train crew. Upon one charge of the battery they can run about 65 miles. As they can run by using only half the battery (84 cells), traffic would not be interrupted in case the other half should get out of order.

COMPLETE BRAKE AND SIGNAL EQUIPMENT.

In constructing these coaches particular attention will be paid to providing them with reliable brakes. In addition to the air brakes they will be equipped with electrical brakes and also with emergency hand brakes. During the trials, which were conducted with a coach very similar to those now being constructed, it was found that when traveling at a rate of 36 miles an hour it could be brought to a standstill within a distance of 220 yards by applying the air brakes. When the air and electrical brakes were applied simultaneously, the coach was brought to a stop in 110 yards. In case the two sections of a coach should be separated, air brakes would be applied automatically on each section. The compressed air for operating the brakes is supplied by a compressor driven by a 2½ horsepower electromotor. By an equipment which works automatically the compressor is set in motion by the motor as soon as the air pressure drops below a certain point, and is stopped again as soon as the necessary pressure has been attained.

Signals will be given by means of an electrically operated horn instead of with a whistle. All of the signal lanterns will be equipped with two electric lamps supplied by two independent currents, so that in case one wire becomes disabled the other may be used immediately.

It is anticipated that these new coaches, which will be lighted by 32-candlepower electric lights, will become very popular with the traveling public because of their smooth, quiet running and the entire absence of cinders and smoke. [The names of the different German manufacturers who are furnishing the various parts of the equipment in question are filed with the Bureau of Manufactures.]

MOTORS AND VEHICLES.

AUTOMOBILE TRADE.

ASIATIC TURKEY.

CONVEYANCE OF PASSENGERS AND FREIGHT BY AUTOMOBILES.

Consul Jesse B. Jackson, of Aleppo, furnishes the following information concerning the introduction of automobiles and motor trucks into northern Syria:

A concession has been recently granted by the Government to a local company [name on file at Bureau of Manufactures] for the right of transportation within this consular district of freight and passengers by automobiles. As the outcome of the enterprise is more or less problematical, it has been decided to proceed cautiously at first, following which two second-hand machines have been purchased in Egypt. One is of the large touring-car variety, suitable for seven passengers, while the other is a motor truck of 10,000 pounds capacity. The roads over which it is expected to operate are not in first-class shape, and the climatic conditions are such that it is not thought possible to be able to work the entire year, as the heavy winter rains render the roads almost impassable for two or three months during that season. The prospects appear favorable for the purchase of a number of cars in the near future, a matter which should have the careful attention of American manufacturers of such machines. Comparison will be made by the company of the construction, capacity, cost, and probable durability of the American-made machines with those manufactured in Europe, especially in France.

INTRODUCTION METHODS.

If American exporters should be able to induce this company to purchase one or more cars, it will serve as an entering wedge, and other sales will undoubtedly follow, not only to this society, but to private parties, a number of whom will no doubt purchase automobiles in the near future. Means of communication have heretofore been limited to carriages, horses, camels, and donkeys, and the people are now convinced that such ancient methods cause costly and unnecessary delay, which, in the absence of railways, can only be overcome by the use of automobiles.

Special attention should be given to the introduction of cheap cars, as the question of price is all important. However, quality should not be sacrificed, as to put inferior cars on the market would only react upon American manufacturers in the future and make success but temporary. All cars to be used by the above-mentioned company will be purchased direct, but American dealers who expect to supply the public should take up the matter with the various commission houses of Aleppo, a complete list of which is on file in the Bureau of Manufactures. In order to more effectually appeal to local conditions, catalogues showing all particulars of construction, prices, etc., should be printed in French, including cost of shipping.

A much more effective manner in which to solicit this business would be for some company or organization in the United States to send a competent representative, speaking French, with several machines of different sizes, varieties, and prices, to make demonstrations and thoroughly exhibit their working efficiency. It is a notable fact that "seeing is believing," and especially so to people who, one time or another, have been victims of dealers of different countries in every line of trade. This consulate will be glad to receive advance information of any efforts on the part of American firms to secure this business, to which all assistance will be given that is within its competency, and will also be pleased to have catalogues and price lists to place on file for the use of inquirers.

CONCESSIONS FOR AUTOMOBILE LINES.

IMPORTANCE OF THE MOTOR CAR FOR SYRIAN DEVELOPMENT.

Consul-General G. Bie Ravndal, of Beirut, furnishes the following information concerning the important part the motor car is going to play in the general development of Syria:

Several applications are already on file at Constantinople for a concession for a motor-car service between Aleppo and Bagdad, between which cities the traffic in mails, goods, and passengers is rapidly increasing, greatly enhancing the importance of Beirut as a seaport, as Beirut and Aleppo are connected by rail. Between Damascus and Bagdad, also, a motor-car service is likely to be established. The distance between Beirut and Bagdad, via Damascus, is about 525 miles, against more than 4,000 miles by the sea route. The motor car as the advance agent of the railroad is certain to play an important part in opening up vast regions in Ottoman Asia. The automobile is destined to be the pioneer in unknown lands, and when, through its agency, the advancement of the country has reached a certain point, the railway will follow, binding new districts to the rest of the world with its strong steel bands. The first motor car appeared in this country in 1908. There are now half a dozen in the country, and about 15 more on the way to Beirut, one of which has been ordered in Michigan.

As far as the automobile is concerned, Turkey is virgin territory. Its 30,000,000 people are practically without motor cars. For use in Syria and Palestine, cars propelled by petroleum, with strong elastic springs, capable of negotiating sharp hills and of clearing rocks and furrows in the roads, are required. Simplicity and durability of construction are preferable to style. As the Ottoman Government is preparing to spend several millions of dollars on road building during the next few years it seems fairly certain that this country, before long, will prove a good market for motor cars.

PASSENGER LINE IN MESOPOTAMIA.

RESULT OF AN AUTOMOBILE TOUR BY AN AMERICAN.

Consul William C. Magelssen makes the following report from Bagdad on the introduction of motor cars in the Mesopotamian region of Turkey:

A director of an American firm recently completed a trip in an automobile from Aleppo to Bagdad. The car, which is a 40-horsepower, was built for this particular journey, and for the first time Mesopotamia, the "cradle of humanity," has been invaded by a modern and foreign conveyance. The trip occupied seven days and was made without serious difficulty, and thus the feasibility of operating a motor-car service between the two cities in question has been established.

The American's visit has resulted in the formation of a company whose object is to purchase a number of heavy cars to run between Khanikin, on the Persian frontier, to Kerbela, via Bagdad. The promoters of this company are prominent residents of Bagdad [name of person with whom correspondence should be undertaken concerning the scheme may be secured from the Bureau of Manufactures]. I learned that 1,400 shares, at 5 Turkish liras ($22), have already been disposed of and the money deposited in the Imperial Ottoman Bank. The number of shares has been fixed at 4,000.

Kerbela is the holy city of the Shi'ite sect of Mohammedans, and thousands of pilgrims come every year to worship at its shrines. The majority of the pilgrims come from Persia, Russia, and the Afghanistan and Turkestan countries. They travel on horseback, in sedan chairs, in double baskets fastened to a mule's back, and on foot, and months are spent en route. With the establishment of a motor-car service their journey from the Persian frontier to Kerbela, which formerly occupied eight days, would be reduced to as many hours.

In Turkish Arabia and Mesopotamia, where no railroads and wagon roads exist, automobiles could be employed to good advantage. The country is perfectly level and smooth. The American referred to informed me that one day on his trip from Aleppo, he ran his car without a stop from 8 o'clock in the morning till 4 in the afternoon, at a rate of 35 miles an hour, over ground as smooth and attractive as a race track, and that he has seen nothing like it for motoring.

JAPAN.

AUTOMOBILE MAIL CARRIERS AND POSSIBLE MANUFACTURE OF CARS.

Vice-Consul-General E. G. Babbitt, of Yokahama, reports that the newspaper Yorozu Choho, of Tokyo, states that Baron Goto, minister of communications, is investigating the advisability of transporting mail by automobile in the principal cities of Japan.

It is stated that cars will be bought for Tokyo and Osaka and if satisfactory that the service will be extended gradually to other cities. It is further understood that the system might be extended to distant points where railway traffic is not yet opened. Tomijiro Oguri, a merchant of Tokyo, will, it is said, act as a private contractor for the supply of cars, establishing an automobile manufacturing company if the investigation is satisfactory.

It is probable that cars if imported for the Government would be free of the 50 per cent ad valorem duty now levied, but it is more than likely, if the matter is favorably considered, that the cars will be built in Japan and only motors, tires, coils, and other parts imported.

[Two firms with offices in New York are named by the consular officer with whom it is suggested that this matter be taken up. The addresses may be obtained from the Bureau of Manufactures.]

SOUTH AFRICA.

TAXICABS VERSUS HORSE CARS IN JOHANNESBURG.

Consul Edwin N. Gunsaulus reports as follows concerning the use of taxicabs in the Transvaal:

The introduction of taxicabs into Johannesburg by a company organized for the purpose is now an accomplished fact, despite the opposition of cab owners, who protested in a petition forwarded to the town council, signed by 600 of their number. Recommendations respecting the license and fares to be charged have been adopted, it having been decided that, subject to the Government's approval, the license fee for each taxicab should be fixed at £15 (about $73) per annum, and that the tariff of fares should be the same as the ordinary cab fares, excepting for time engagements, in which case it will be 10 shillings ($2.43) instead of 7s. 6d. ($1.82) per hour. The existing cab tariff for first-class cabs is 24 cents per mile each for the first two passengers and 12 cents for each additional passenger, and includes five minutes waiting without charge. For detention over five minutes 48 cents for each fifteen minutes or fraction may be charged. It was shown in the report that it would be necessary to amend the traffic by-laws by making the half-yearly license for taxicabs $36.50 and altering the tariff as follows: For conveying one passenger (*a*) any distance traveled not exceeding 1 mile, as measured and indicated by the taximeter, 24 cents; (*b*) each succeeding half mile or any part thereof, 12 cents. Where two or more passengers are conveyed, a full fare may be charged for the first two passengers and an extra half fare for every passenger beyond two. By time, for the first hour or part thereof (irrespective of the number of passengers), as indicated by the taximeter, 10 shillings; for each additional fifteen minutes or part thereof, 2s. 6d. (61 cents).

MAURITIUS.

A GOOD FIELD FOR THE INTRODUCTION OF AMERICAN MACHINES.

In reply to inquiries, Consul Samuel C. Reat, of Port Louis, furnishes the following information concerning the automobile trade in Mauritius:

Although a small dot in the Indian Ocean, Mauritius has between 75 and 100 automobiles, mostly French and English makes, there being but one American machine in the island. The roads of Mauritius are almost equal to the best metropolitan boulevards, and it may be called the autoist's paradise, for there is neither state nor town law in regard to speed limit. The number of machines will be increased considerably by this year's purchases, and American machines costing $500 to $1,000, or even higher-priced cars, might supply a part of the demand, if American manufacturers would meet French and English competition. That competition is neither in mechanism nor price, for in both it is generally conceded the American manufacturers have the advantage; but the French and English competition, which must be met, is the consignment of cars to authorized representatives or to responsible parties with the privilege to make a reasonable test of the car. This method appeals strongly to the prospective buyer, and is so generally known as to preclude negotiations in any other way.

After several American cars have found their way among the people, and their merit becomes recognized, it might not be necessary to continue the consignments of cars subject to approval. The consulate believes that if a few American cars were introduced here the demand would increase steadily, so that in a brief period they would be as well known here as either the French or English.

The consulate advises that catalogues be sent to the inclosed addresses. [Addresses on file in the Bureau of Manufactures.]

IRELAND.

INCREASING USE OF AUTOMOBILES AND MOTOR VEHICLES.

In transmitting extended extracts from local newspapers concerning a school for motor education and the increasing use of commercial motor vehicles in his district, Consul Alfred K. Moe, of Dublin, writes:

That motoring has become sufficiently important in this part of Ireland is evident by the fact that the large school devoted to the instruction and practice in this branch of mechanics at the Pembroke Urban Council's technical school at Ringsend, Dublin, is growing every year in importance and efficiency, 200 students being in attendance. The newspaper article herewith is interesting as showing the progress being made in this particular branch of engineering to develop intelligent automobile drivers and mechanics.

Within the last 2 or 3 years the commercial motor vehicle has been taken up by a few of the larger business houses here. They were tried as an experiment, and so well has that trial worked that it may be said the time has come for the general adoption of this class of gasoline-driven car. American manufacturers may secure an excellent market here for their products, provided they establish suitable agencies and demonstrate the qualities of their cars. [The newspaper articles forwarded by Consul Moe are on file in the Bureau of Manufactures.]

MEXICO.

GOOD FIELD IN CITY OF CHIHUAHUA.

Consul Lewis A. Martin submits the following report on the use of automobiles in the Mexican district of Chihuahua:

Automobiles have been much in evidence in this city during the year past. They are as yet used principally for pleasure, but it is probable that they soon may be used for the delivery of goods and for conveying passengers. A Michigan company has an agency in this city and has sold quite a number of its machines here. There are a few other machines in use, but the great majority of automobiles seen here are of one manufacture.

Some months ago there were eighteen automobiles destroyed in a fire which burned the garage where many private machines were stored. A few were rescued, but most of the machines were consumed before the fire could be controlled. This disaster leaves an opening for the sale of as many more to take the place of the cars destroyed. The machines here are used by professional men and by gentlemen interested in mines who live in the city, as well as by persons with means who use them for pleasure.

There are in this city quite a number of wealthy Mexican families who are able to own the very best make of automobiles and they do not care for the price of such things. They like the best and most luxurious conveyances. The most of these people are supplied with fine carriages and beautiful spans of horses, but the keeping of horses in this city is very expensive, and it is understood that the automobile is more economical. There is no competition here in the automobile trade. All those in use are American-built machines and, with few exceptions, all were sold by the Michigan company, no other manufacturer being represented in this city.

The type for which a demand could be created here is a light-weight, low-price car, requiring a small amount for upkeep, the roads in this section being hilly and rough and very hard on tires and parts liable to breakage.

BICYCLES AND MOTOR CYCLES.

ASIATIC TURKEY.

BICYCLE TRADE SURRENDERED TO EUROPEAN MANUFACTURERS.

In furnishing the following report concerning bicycles in Smyrna, Consul-General Ernest L. Harris shows how and why foreign markets, once controlled by American bicycles, are now dominated by German and English machines.

The bicycle trade in Smyrna is on the increase. The wheel which commands the market is imported from England and Germany and sells for $28 to $35. Ten years ago American manufacturers dominated this market, but to-day scarcely an American machine is imported. The reason for this change is to be found in the fact that American plants which formerly catered to the markets of the world in this respect have turned their attention to making something new which either appeals more to the fancy of the buyer or promises more lucrative results.

What was true as far back as 1897–98, when the American bicycle flooded Germany, for instance, has been true in a less degree naturally in countries like Turkey, where merchants had to meet not only government restrictions, but popular prejudice as well. The bicycle trade with Germany declined because American manufacturers abandoned the field to German concerns which began making a cheaper machine, not because they could no longer compete with the Germans in the German market, but on account of the decline of trade at home. As the demand for bicycles in the United States grew less, large manufacturing establishments could not afford to make wheels for the export trade alone. German and English manufacturers were thus placed in a position to secure their home markets and, in turn, to become competitors in such markets as Smyrna.

Small bicycle tools and repairing outfits are still imported chiefly from the United States. There is still, in my judgment, a limited market for American bicycles in Smyrna, but not of sufficient magnitude to warrant any special efforts to secure it.

It is safe to predict that as the state of the country roads improve in the vicinity of Smyrna the trade in bicycles will decline and that in motor cycles will increase. There are already quite a number of motor cycles in that city. Up until last July they were practically prohibited entry into the country, but all such restrictions have now been removed. The duty is 11 per cent. If interested parties will file their catalogues with this consulate-general they will get to the trade.

COMPARATIVE CYCLE EXPORTS.

LARGE GERMAN AND ENGLISH EXPORTS, WHILE AMERICAN TRADE DECLINES.

In 1908 Germany exported $14,126,790 worth of cycles and parts, against $16,608,250 the year before. Despite the decline the Germans are ahead of Great Britain, the next leading exporter, which sold abroad last year $6,866,185 worth of cycles (other than motor cycles) and parts, while of motor cycles the sales were $278,672. The British, however, have extended their export trade in both these lines, the respective amounts in 1907 having been $6,230,052 and $259,000, while the exports in 1906 were proportionately less.

The American manufacturers of cycles and parts have been steadily losing their foreign trade. The exports in 1903 were over $2,000,000 in value, in 1907 they were only $1,000,000, and last year only $700,000. The foreign market has been allowed to be absorbed by the Germans, who have rapidly increased their sales where American makes were once predominant.

CARRIAGES IN BURMA.

A POSSIBLE MARKET FOR AMERICAN VEHICLES IN INDIA.

In reply to a communication from a New York wagon company, Consul E. A. Wakefield, of Rangoon, furnishes the following information concerning the use of carriages in Burma:

The imports of carriages into Burma during the year 1907-8 amounted to more than $275,000, of which about $218,040 worth were imported from the United Kingdom and $56,000 worth from India. The imports from the United Kingdom during the fiscal years 1906 and 1907 amounted to $130,000 and $215,000, respectively. A few carriages have been imported from the United States and Germany.

From the prices obtained it should be possible to find a market here for American vehicles, for owing to the hot climate everyone who can afford to do so drives to and from business.

VEHICLES IN USE.

As it rains every day here for about five months in the year, nearly all vehicles are provided with tops and mud guards. Municipal regulations require lamps on vehicles of every description after sunset. As the imported vehicles are principally from the United Kingdom, carriages here are of English pattern, and local carriage builders follow the same general lines.

A feature which must be considered is the stand for the footman, which is considered necessary on nearly all four-wheeled carriages. Dog carts have a back seat facing the rear. The two-wheeled vehicle, in a variety of styles, is much used for short drives. A small seat in the rear, attached usually to the body of the carriage and hanging quite low from a single steel supporting arm, is as much a feature of these carriages as the driver's seat. This is for the syce or native stable boy, who invariably accompanies the turn-out.

The gharry, as the public carriage is called, is a narrow four-wheeled cab, very cheaply constructed and locally made. Some private gharries are quite elaborate in construction and ornamentation.

Illustrations are forwarded showing the general type of carriages used here, which may be of assistance in determining the kind suitable for export to Burma.

The rate of duty is 5 per cent ad valorem. The freight rate is based on the cubic feet occupied, and all merchandise should be prepared as compactly as possible in the most durable manner, with iron strapping. A few names are submitted as possible agents.

[Illustrations and names of possible agents are on file in the Bureau of Manufactures.]

GERMAN AND AMERICAN HIGHWAYS.

THEIR WIDTH THE CHIEF CAUSE OF POOR ROADS IN THE UNITED STATES.

The following information concerning the superiority of the highways of Germany as compared with those in the United States is furnished by Consul Robert J. Thompson, of Hanover:

Perhaps Germany is not more noted for the excellence of its roads than any other of several European countries, but it is not an extravagant statement to say that one never sees in any of the American Western States a country road as good as the poorest to be found here. While this is due principally to the scientific building and maintenance of public roads in Europe, it is, perhaps, likewise attributable in equal degree to the restriction of the highways to a reasonable and workable width.

ADVANTAGES OF NARROW HIGHWAYS.

German roads are perhaps subjected to a hundred times more traffic than similar roads in the United States. These roads range from 20 to 30 feet in width, while in our Middle or Western States, where the traffic is comparatively light, we take land of an average value of $100 per acre and cut it up with roadways 66 feet in width, practically two-thirds of the same being given over to weeds, which furnish an inexhaustible supply of seeds for the adjoining farm lands. The farmer in Germany who has conquered the weeds on his ground need have no thought of their being started again from uncultivated or uncared-for land along the roadways. There are no weeds, no mud or chuck holes, no sand stretches in the roads. Looking into the valleys from one of the thousands of lookout towers which have been placed on the summit of nearly every high elevation of land or mountain in Germany, the roads lie before one's view like bright white ribbons running past squares of green or brown fields, along the verges of cultivated woods, and binding village to village—a solution of the first and most important problem of human economy and evolution, that of transportation.

It is not an infrequent sight, when traveling by rail through the more level stretches of country in Germany, France, or Holland, to see an automobile flying over some main highway running parallel with the railroad, easily keeping pace with the train for miles, it being generally necessary to slacken speed only when passing through the larger villages and towns, and never on account of poor roads.

The good-roads question for the United States may seem almost hopeless when considered with such pictures before the eye, but one of the simplest and most practical measures that could be taken for their betterment would be to reduce their width to from one-third to one-half of what they now are. Work could then be concentrated on the roadway and drains, the waste land returned to the farmers or abutting property owners, and by these perfectly natural economies make both the building and maintenance of the roads a much simpler and less expensive proposition.

No road can be called really good if it is bordered with weeds or mud, and to care for and keep up a road from 60 to 70 feet in width, not to mention the loss of land, means in the long run nearly double the expense of a 30 or 35 foot road. The Prussian law specifically states that unnecessary width shall be avoided on account of the cost of land and the greater expense of construction and maintenance.

HIGHWAYS IN THE UNITED STATES.

The average width of the chaussee or highway of the first class in Prussia is approximately 30 feet, and this width has been found to be ample for all purposes. In the United States, public highways in the States given below may be conservatively estimated as follows, in miles, the data for Minnesota, Wisconsin, and Michigan being official: Minnesota, 80,000; Wisconsin, 60,000; Michigan, 60,000; Iowa, 70,000; Kansas, 70,000; Nebraska, 50,000; Missouri, 80,000; Illinois, 80,000; Indiana, 70,000; Ohio, 80,000; total, 700,000.

Reducing the width of these public highways, which now average 66 feet, to 36 feet, leaving them still much wider than the highways of Prussia, would give back to the farmers of those States, for cultivation, 2,500,000 acres of generally tillable land, which, at an average valuation of $100 per acre, would mean the restoration to the producing values of the States named of $250,000,000. This sum has an annual interest value of $12,500,000, an amount which might be recovered, and if applied to the proper scientific construction of roads in the United States would in a few years give us the most extensive and finest country road system in the world.

TRACKLESS TROLLEY SYSTEM.

SHORT LINE IN OPERATION IN THE SUBURBS OF VIENNA.

In reply to a communication from a Pacific improvement company, Consul-General A. M. Thackara, of Berlin, furnishes the following information concerning trackless trolley lines:

There is no electric line of this character in Mannheim. At Eberswalde, Germany, in 1901, there was an experimental trackless trolley system installed by a Berlin engineer, but after being in operation a little more than five months it was withdrawn. A report from this consulate-general, giving the details of the construction of the Eberswalde line, was printed in Daily Consular and Trade Reports for March 24, 1906.

There is a trackless trolley line in operation between Plötzleinsdorf and Salmannsdorf, suburbs of Vienna, about 1.37 miles in length. It passes through an unusually small and narrow street with many sharp turns, broken by steep grades and sudden declines. It is necessary for the omnibuses along the route to climb many long stretches having a grade of 1 to 10. This is a double line, arranged so that the cars going back and forth can pass each other without interruption.

From statistics furnished by the director of the street car system of Vienna, the total cost of the construction of the plant, exclusive of alteration of roads which may be rendered necessary, and which the road officials would be obliged to provide for, amounts to $44,253. The same authority estimates the annual running expenses of the line at $9,873, and the receipts from passengers at $6,394, a loss of $3,889.

The particular system of motor used is known as the Stoll or Mercedes system. A pamphlet is forwarded containing illustrations showing the construction of the omnibuses, the type of motor used, short descriptive explanations, and data collected from the various lines where this type of motor is in operation; also the time-table and a chart outlining the route over which this trolley line passes, showing the supply of current along the entire route, the fluctuation in the voltage, and the explanation of this variation, all of which were furnished through the courtesy of the director of the Vienna street car system in connection with which the line is built. The line was only opened to the public October 14, 1908. [The pamphlet and other publications referred to by the consul-general are on file in the Bureau of Manufactures.]

AGRICULTURE.

TOBACCO INDUSTRY ABROAD.

HUNGARY.

CONSUMPTION AND OUTPUT OF THE FIUME FACTORY.

The following statistics covering the tobacco industry of Hungary, more particularly the Fiume factory, are furnished by Consul Clarence Rice Slocum, of that city:

The local establishment of the Royal Hungarian Tobacco Factory consists of seven four-story structures located well within the center of the city and conveniently situated both for the receipt of the raw materials and for the shipment of the finished product. The manufactured goods are immediately placed in the Government's tobacco warehouses, located upon the Piazza Urmeny, which control the output of the local factory, not only as regards local sales, but also in respect to the supply necessary for the other government warehouses in the Kingdom of Hungary.

The local factory furnishes employment for 175 men and 1,936 women, and, from an economical standpoint alone, possesses decided value for the city of Fiume and for the neighboring towns and villages.

The central control of the manufacture and distribution of the output is at Budapest, whence specific instructions radiate to the 21 storehouses attached to as many government factories throughout Hungary, and overproduction is carefully guarded against, each factory basing its output upon the orders issued to and from the warehouse to which it is attached.

EMPLOYEES' PENSIONS, OUTPUT, AND CLASSES OF TOBACCO CONSUMED.

Under the government factory law the number of employees, their duties, compensation, etc., are determined by the central bureau of control at Budapest. Females under 35 and males under 40 years only will be accepted for original employment. Boys and girls between the ages of 12 and 14 can not be employed longer than 8 hours per day, and those between 14 and 16 years longer than 10 hours per day. Preference in employment is given to natives and residents of Fiume, and then to residents in the suburbs, in the order of proximity to the city.

All employees who have served without cessation for 10 years are pensioned if incapacitated through illness or through accident incident to their work; for from 10 to 25 years' service they receive one-fourth their yearly wages; after 25 to 40 years' service, one-half their yearly wages; and after 40 years' service, three-fourths their yearly wages.

The output of the Fiume factory in 1908 was as follows: Cigars, 23,029,570; cigarettes, 371,171,950; smoking tobacco, 1,292,874 pounds; thanaton (tobacco sauce), 34,777 pounds. The following statement shows the amount of foreign tobacco used in the Fiume factory in 1907:

Whence imported.	Pounds.	Whence imported.	Pounds.
United States:			
Virginia	162,042	Hungary, plantation and garden raised	421,312
Kentucky	161,542	Russia, Caucasus	289,683
Ohio and Maryland	875	Java and Sumatra	95,447
Manila	37,239	Brazil	64,687
Turkish:		All other	116,604
Macedonia, cigarettes and smoking	1,332,134		
Turkey, all other	49,918	Total	2,731,483

LOCATION OF FACTORIES—WAGES AT FIUME.

The 21 tobacco factories in Hungary are situated in the following places: Budapest, O'Buda, Ferenczvidros, Fiume, Zagreb, Senj, Pozun, Temesvar, Kolozsvar, Papa, Debreczon, Pedo, St. Gothard, Urinkaos, Sejtiszentgyorgy, Sepes Vela, Kassa, Deva, Gyor, Zalyon, Kanizsa.

My information is that, with certain variations, the output of each factory is approximately the same as at Fiume. There are 16 machines used in the Fiume factory, manufactured in various countries, but no American machine is among them. A list of these machines, their capacity, uses, countries of manufacture, their respective prices, together with the number of hands necessary to operate them, are herewith transmitted. [On file in the Bureau of Manufactures.]

The following are the rates of wages per day in the Fiume factory, machine tenders not included: Cigarette packers, 43 cents; table managers, 55 to 60 cents; weighing women, 55 to 60 cents; sweepers, 39 cents; storeroom keepers, 60 cents; sorters, $3.25 to $3.65 per week; cutters, $5.70 to $7.30 per week.

FRANCE.

SPECIAL PURCHASING AGENTS VISIT AMERICA—REDUCED SHIPMENTS.

With reference to the purchase of tobacco by the French Government, Consul-General Frank H. Mason writes from Paris:

The tobacco imported into France is purchased by special expert agents of the Régie, or that bureau of the Government that has charge of the importation, manufacture, and sale of tobacco, cigars, cigarettes, etc., and which is a strictly enforced government monopoly. The special expert agents go to America and other tobacco-producing countries from time to time, according to the needs of the Régie here and the state of the raw tobacco markets abroad. Those who go to the United States make their headquarters at the French consulate-general in New York, and American traders who have American tobacco to offer can get into touch with them there; or, if none are present at any given date, can ascertain when they may be expected to arrive. Sometimes, as I am informed, a French Government buyer will go to Kentucky or other tobacco State during the season to examine the crop, but usually purchases are made, so far as I can ascertain, from samples presented by brokers or merchants who wish to make sales.

The importations of American tobacco into France in 1907 amounted to 15,886,613 kilos (kilo=2.2 pounds), out of a total import of 37,959,792 kilos from all countries, including Algeria and other French colonies. [The American statistics show that in the calendar year 1908 there were exported to France 29,255,353 pounds, valued at $2,767,386, against 33,281,130 pounds, worth $3,160,839, in 1907, and 38,033,808 pounds, valued at $3,121,117, in 1906.—B. of M.]

OPERATIONS OF THE MONOPOLY.

PRODUCTION, MANUFACTURE, SALES, AND GOVERNMENT RECEIPTS.

Consul-General Horace Lee Washington, of Marseilles, furnishes the following information concerning the working of the tobacco monopoly in France:

The annual report in regard to the French tobacco monopoly, covering the year 1907, has just been published. It shows that the total receipts for the year amounts to $91,103,713, an increase on the preceding year of $2,416,491. The expenses amounted to $16,546,479, an increase of $615,334 over those of 1906. The sales to the public were as follows, in metric tons:

Description.	1906.	1907.	Increase +and —decrease.
	Tons.	*Tons.*	*Tons.*
Cigars	2,487.6	2,382.2	-105.4
Cigarettes	2,521.8	2,793.9	+272.1
Scaferlatis.	28,388.1	28,723.8	+335.7
Roll and chewing tobacco	1,162.6	1,149.3	− 13.3
Powder	4,830.6	4,851.0	+ 20.4
Total	39,890.7	39,900.2	+509.5

PER CAPITA CONSUMPTION—DOMESTIC PRODUCTION.

The increase in sales was almost entirely due to the greater consumption of cigarettes, $1,440,359, and scaferlatis, $974,650. The average rate of consumption per capita was 2.23 pounds, of which 0.27 pound represented tobacco in powder and 1.96 pounds smoking and chewing tobacco. The total sum devoted to the purchase of tobacco was $97,739,234, or $2.51 per capita, of which $2.31 returned to the treasury.

The production of domestic tobacco, which constitutes an important source of revenue, is authorized in 27 departments. The results have been as follows for the years 1905, 1906, and 1907, the tobacco produced in those years being delivered in 1906, 1907, and 1908, respectively.

Description.	1905.	1906.	1907.
Number of planters	53,750	52,470	52,366
Acres planted	39,440	37,928	38,699
Quantity delivered ... metric tons	28,006	16,188	20,355
Value of thequantity delivered	$4,949,381	$2,906,827	$3,754,724
Accessory expenses	$242.00	$167.00	$108.00
Average price of tobacco per 220 pounds	$17.70	$18.00	$18.50
Value of production per acre	$125.49	$76.64	$97.02
Production per acre ... pounds	1,562	941	1,158

UNITED KINGDOM.

RESULTS OF TOBACCO-GROWING EXPERIMENTS IN IRELAND.

Consul Alfred K. Moe, of Dublin, furnishes the following information relative to experiments made by the Department of Agriculture and Technical Instruction in tobacco growing in Ireland:

Experiments in the growing of tobacco in Ireland have been carried on since the year 1900. In the earlier years the experiments were, for the most part, conducted on small plats widely distributed, and the curing of the leaf was effected under great disadvantages. The results obtained showed that tobacco could be grown and cured successfully in Ireland, and that a leaf suitable for blending in smoking mixtures could be produced. Since the beginning of the year 1904 experiments have been conducted on a commercial scale. This involves the planting of a considerable area as well as provision at each experimental center of equipment for curing and finishing the leaf. In 1904 tobacco was grown on 20 acres at one center. The number of centers and the area under tobacco were subsequently increased, so that during the year 1908 experiments were conducted at 11 centers in the following 7 counties: Louth, Meath, King's, Kilkenny, Wexford, Tipperary, and Limerick, the total area cropped being almost 100 acres. The object of these experiments is to determine the possibilities of tobacco as a paying crop for the Irish farmer.

SUMMARY OF RESULTS.

It may be said that the prices obtained in 1904 and 1905 were influenced somewhat by the novelty of the article. The quantity of the tobacco was small, and most of the Irish manufacturers considered it advisable to have some of it in stock. In 1906, however, the tobacco sold by the Tobacco Growers' Association was valued by an independent broker strictly upon an American basis; that is to say, the tobacco brought prices which American tobaccos of the same kind and quality were selling at in the Liverpool market. The crop of 1907 was sold upon the same commercial basis, with the exception of two portions, consisting of miscellaneous lots, which were sold at an average price for all kinds.

The quantity of tobacco sold and the average price at which it was sold in each of the years 1904 to 1907, inclusive, were as follows:

Year.	Pounds.	Cents per pound.
1904	7,984	10
1905	27,566	9
1906	66,714	9¼
1907	55,194	8¼

The yield varies greatly with the type and class of tobacco grown and with many other factors. There does not appear to be any real difficulty in obtaining 1,000 pounds per statute acre, which may be considered an average crop. The cost of production is high, being not less than $97 per acre. The cost in some cases has been treble this sum. The cost in any given case will depend mainly upon the class and type of tobacco grown; the cost of equipment, labor, and land; the method of culture, curing, and handling; and the thoroughness with which the work is carried out.

The article in the Quarterly Journal of the Department of Agriculture, from which the foregoing information is derived, states that tobacco, like most farm crops, yields little more than a fair return upon the labor and capital involved in its production, though in highly protected countries, or where labor and virgin soils are very cheap, tobacco growing may produce large net profits.

ASIATIC TURKEY.

TOBACCO CULTURE AND INDUSTRY OF TREBIZOND.

In reply to communications from Kentucky and Indiana growers, Consul Milo A. Jewett furnishes the following information concerning the cultivation of tobacco in Trebizond:

Cigarette tobacco is one of the chief crops and one of the most important exports of Turkey. It enjoys a high reputation everywhere . In 1908 the United States purchased from Samsoun, in the consular district of Trebizond, $582,000 worth of cigarette tobacco. In this part of Turkey tobacco is raised chiefly at Samsoun, Bafra, Trebizond, and Platana. At present the United States buys only from Samsoun, but it seems to me quite possible that the tobacco of Trebizond and Platana might also be of use in making the American Egyptian cigarettes. It is certain that quite large quantities of Trebizond tobacco are sold to Egypt, where it is used to brighten the tobaco obtained from other parts of Turkey.

Trebizond tobacco is weak; it has very little aroma; the leaves are large, very light colored, and do not keep very well. Samsoun and Bafra tobaccos are stronger, have more aroma, do not bite the tongue; the leaves are smaller and darker. The most aromatic sorts are what are called " Marden " (mine) and " Dere " (valley) varieties. These leaves are small, strong, dark, and aromatic.

TOPOGRAPHY, CLIMATE, AND CULTURE.

The country where the best Turkish tobacco is grown in this consular district is a low mountainous region bordering the south shore of the Black Sea. It lies between the 40th and 41st degrees of north latitude. A chain of mountains, once densely forested but now quite bare, 2,000 to 8,000 feet high, runs along the coast at varying distances back from the sea and seems to act as a curtain to hold the clouds and the moisture which rises from the sea. Most of the tobacco fields are on the slopes of the foothills and in the lower valleys from half a mile to 3 miles from the shore. As a rule they are small, 1 to 4 acres. Snow is not abundant in this region and there is little frost. It is considered desirable that the ground should freeze a little in the winter before it is cultivated. Rain is quite abundant until June, and the atmosphere is nearly always humid. In the Trebizond region a clear sky and a bright sun are extremely rare. The summer is hot. The tobacco fields are not irrigated. According to the general opinion here, it is climate rather than soil that causes the difference in the various kinds of tobacco.

The methods of tobacco culture in this country are primitive and much is left to chance and nature. No systematic rotation of crops is practiced, no scientific fertilizing, and little cultivating. Some fields are planted with tobacco year after year without any rest, while a few, the least desirable ones, are left fallow every 3 or 4 years.

About the middle or end of March the seed, mixed with a little sand, is sown on a small bed of ground at one side of the field or in some garden. This starting bed is carefully spaded and hoed and cleaned from stones and weeds.

When the plants are from 4 to 6 inches high they are transplanted in the field and set out in rows about 18 inches apart and the plants placed about a foot apart in the rows. They are watered once or twice when first set out and rarely after that. Little weeding or cultivating is done. No machines are used.

At Trebizond when the tobacco is 12 to 15 inches high the tops are broken off and the shoots are pinched. A few stocks are left for seed. At Samsoun little or no budding or pinching is done. There they try to get many small leaves, while at Trebizond they look for large leaves, quantity rather than quality.

HARVESTING AND CURING.

Harvesting begins in the latter part of June and the pickings follow one after the other throughout the summer. At Trebizond there are three pickings, (1) the lowest leaves and the poorest in quality, (2) medium leaves of medium quality, (3) the best quality, large leaves, strong, and of darker color. The seeds are gathered in September and no use is made of them excepting for planting.

In Trebizond the average yield is about 800 pounds of tobacco per acre. In Samsoun it is about 750, and in Bafra it averages about 900 pounds per acre. In 1908 Trebizond, including Platana, produced about 60,000 hundredweight; Samsoun and Bafra each produced about the same amount, and all other portions of this district produced another 60,000 hundredweight.

The leaves, as gathered, are placed on strings, each quality by itself, and the strings are hung on horizontal poles. They are dried in the sun near a cabin so arranged that in case of rain the poles can easily be run into the cabin to protect the tobacco. After the leaves have been well dried they are put into a damp house or cellar, where they remain until they become soft, when they are made up into packets of six to ten leaves. Subsequently they are taken to the Tobacco Regie depots, where they are sorted, manipulated, weighed, controlled, and sold either to the Regie or to the tobacco merchants.

CHINA.

IMPORTS OF AMERICAN LEAF TOBACCO INTO THE EMPIRE.

In answer to many inquiries, Consul-General Amos P. Wilder, of Hongkong, furnishes the following information concerning the imports of American leaf tobacco into China, and the possible opportunity for trade in that product in south China:

Hongkong is the market and distributing center for the whole of south China, controlling the trade of the treaty ports from Pakhoi to Foochow, while the commercial houses which have offices here almost all have branches or representation in the other treaty ports.

Hongkong is a free port, there being no export or import duties of any kind, but leaf tobacco imported into Chinese territory pays a duty of 0.800 haikwan tael per picul, the haikwan tael being equal to 62.5 cents United States gold at the present time, but fluctuating with the rise and fall in silver, while the picul equals 133⅓ pounds. Prepared tobacco in bulk pays a duty of 0.950 haikwan tael per picul.

The imports of tobacco from the United States into the whole of China for the year 1907 was 4,239,100 pounds, valued at $461,857, as compared with 4,639,467 pounds, valued at $596,545, in 1906. About one-fourth of the entire quantity of leaf tobacco imported into China goes to the port of Shanghai. This, it is said, is mostly for the British-American tobacco factory there. The same company's big plant at Hankow also uses large quantities of American leaf, but this, as well as that which they use at Shanghai, is all purchased from the growers by the leaf department of that company. What little manufacturing is done in this district at the present time uses Chinese tobacco exclusively.

AMERICAN LEAF IN SOUTH CHINA.

South China can hardly be considered at the present time a promising field for American leaf tobacco. The lower grades, if furnished at a very small price, might offer an opportunity for working up a small business, now that the Chinese have begun to take interest in the manufacture of cigarettes. To do this, however, would probably require energetic work, a considerable period of time, and the expenditure of money in working up the business. An idea of the possibilities may be gathered from the prices at which cigarettes are sold here at retail. The cigarettes made by a Chinese company, gone into liquidation, used to sell at about 2 American cents per package of 10. Other cigarettes sell at 5 for 0.7 American cent.

The matter might be taken up by those interested with either of the American houses here or with any of the export and import commission houses doing business in Hongkong, a number of which have offices in the United States and a list of which has been filed in the Bureau of Manufactures.

CUBA.

COST OF LABOR AND PRODUCTION IN WESTERN PART OF ISLAND.

To correct some misunderstanding concerning the cost of labor in the cultivation of tobacco in western Cuba, as given in his report published in Monthly Consular and Trade Reports for February, 1909, Consul-General James L. Rodgers, of Habana, furnishes the following additional information:

Apparently some extracts from my published report have been given in tobacco trade papers, and the impression created that the cost of labor, as stated therein, means the total cost of raising tobacco. It was distinctly stated in the report in question that the total cost of tobacco as it entered into commerce was not communicated, and that the cost of labor represented only an attempt at the average, it being stated that in many cases it might go higher and in others lower.

Believing that an erroneous idea may be gained therefrom, certain of the important tobacco growers in western Cuba have stated to me that the total cost of raising open-air tobacco in the Vuelta Abajo district of Pinar del Rio Province is approximately 53 cents per pound, and in the Partido district of Habana Province 85 cents.

This means wrappers and fillers and includes the cost of packing. It is further stated that upon the most successful plantation in the Partido district the cost of shade-grown wrappers and fillers, including packing, is $1.25 per pound. These figures, however, represent the cost of intensive culture, which is entirely beyond the means and aside from the custom of the average tobacco grower. The return from this intensive cultivation, with its liberal expenditure of money, is proportionately large, and although no selling prices are communicated, it is known that such tobacco commands a high price and produces a fine profit. However, very few of the growers in Cuba could afford to spend such an amount upon their product, even if they attempted to produce the very finest grades.

These facts are communicated simply to correct the impression apparently prevalent, but they do not represent any amendment of the previous statements as to the cost of labor upon the average tobacco farm in the districts named.

SUMATRA.

TOBACCO CROP OF LAST YEAR OF SUPERIOR QUALITY.

Consul Henry H. Morgan, of Amsterdam, furnishes the following information relative to the Sumatra tobacco crop of 1908:

The arrivals of Sumatra tobacco at Amsterdam of the crop of 1908 amount to 129,749 bales, of which 31,608 bales were disposed of at the last two public sales, leaving a balance on hand of 98,141 bales. This office is informed by reliable expert authority that the crop of 1908 has turned out to be superior in quality to the crop of the preceding year, which is attributed to the fact that it received much rain, whereas the crop of 1907 was planted and grown during a very dry season. The wet season has caused most of the tobacco to be of a good, ripe character, although some of the crop received too much rain, which resulted in making the leaf of a too light and red color, not suitable for the American market.

Of the 31,608 bales of tobacco offered at the last two inscriptions only about 4,000 bales were bought for the American market, as the tobacco offered consisted principally of sand leaf, which is but little imported by the United States. It is generally believed that the 1908 crop of Sumatra will not be as large as the crops of former years, and that not much of it will be suitable for the American market.

JAPAN.

DEVELOPMENT OF THE CIGARETTE-PAPER INDUSTRY.

Vice-Consul-General E. G. Babbitt, of Yokohama, transmits the following extract from a local newspaper concerning the development of the manufacture of cigarette paper in Japan:

> Hitherto the amount of cigarette paper imported from France and Italy by the Government Tobacco Monopoly Office has reached over 400,000 yen ($199,200) annually. Last year the Osaka Seishi Kaisha was established with the object of supplying cigarette paper to the Monopoly Office and the manufacture of the company is reported to be very satisfactory and not inferior in quality to the imported article. The company's paper has been in use by the Monopoly Office since July last, and it is said that by the end of this year the company will be in a position to supply all the requirements of the Government.

LIVE STOCK.

JAPAN.

EFFORTS TO IMPROVE THE BREEDS OF HORSES AND CATTLE.

In reply to a communication from the secretary of the American Jersey Cattle Club, making inquiries in regard to a stock farm in the Province of Iwate, which had issued a herdbook, Vice-Consul-General E. G. Babbitt, of Yokohama, furnishes the following information concerning stock farming throughout Japan:

The pasturage of the Koiwai Company is 8½ miles from Morioka, in the Province of Iwate, 350 miles to the north of Tokyo, and comprises 8,600 acres. The climate of the district averages 77° F. in temperature, the lowest in January, the highest in August, with more or less snow from November to April. The pasturage is divided into five departments, the first three being devoted to cattle, horse, and sheep breeding, and the other two to agriculture and forestry. In 1901 75 carloads of cattle were imported from England, Holland, and Switzerland, and additions have been imported yearly since then, from the same countries, for breeding purposes. Horses and sheep are imported from England. At present the company has 280 cows, 65 horses, 361 sheep, 75 work horses, and 8 sheep dogs. About 12,000 pounds of butter were produced and sold during the past year.

LIVE-STOCK STATISTICS FOR JAPAN.

The latest available statistics in regard to live stock in Japan are for the year 1905, when the following totals were printed: Oxen, 233,773; cows, 788,985; bulls, 486,315; mares, 813,056; stallions, 554,682.

It is rather surprising to note that the number has steadily decreased since 1900, but it is more than likely that there has been a considerable increase in the last two years, owing to a movement, encouraged by the Government, to improve the breeds of cattle and horses and to increase the number to meet the growing demand.

It is only in later years that the Japanese have taken to the use of milk and butter, and the present demand is not great, while there is practically no demand for cheese, except among the foreign residents and to supply hotels, etc.

The importations of cattle for 1907 were as follows:

Description.	Number.	Value.	Description.	Number.	Value.
Horses	460	$232,583	All other		$8,941
Bulls, oxen, and cows	18,692	224,392			
Sheep and goats	585	4,125	Total		470,041

The imports from the United States in 1907 were: Nine horses, valued at $1,778; bulls, oxen, and cows, 179, valued at $15,792; all other animals, $452; total, $18,022. The imports from other countries were as follows: England, $131,672; France, $67,988; Canada, $9,266; Australia, $56,956; and Korea, $186,137. [A herdbook, issued by the Koiwai Company, is on file in the Bureau of Manufactures.]

GERMANY.

PRUSSIAN STATISTICS FOR THE PAST THREE YEARS.

Consul-General A. W. Thackara, of Berlin, sends the following statistics of horses, cattle, sheep, and hogs on hand in Prussia on December 1 of the past three years, which shows a marked decline in the number of hogs on hand December 1, 1908. He explains this as being due to the high prices of feed and the low prices of hogs in 1907–8.

Year.	Horses.	Cattle.	Sheep.	Hogs.
1906	3,018,443	11,646,908	5,435,053	15,355,959
1907	3,046,304	12,011,584	5,408,867	15,095,854
1908	3,062,895	12,075,406	5,252,256	13,400,506

ITALY.

REMARKABLE INCREASE SHOWN IN VALUATION.

Consul-General James A. Smith, of Genoa, transmits statistics showing that in March, 1908, there were in Italy 955,031 horses, 371,926 mules, 16,435 donkeys, 848,988 asses, 6,190,990 bovines, 19,362 buffaloes, 2,503,733 swine, 11,160,420 sheep, and 2,714,513 goats. In 1881 the value of the live stock of the country was estimated at $350,044,000; in 1891 at $422,900,000, as compared with $772,000,000, the estimated value in 1908. This shows an increase of 120 per cent in valuation since 1881. The high percentage of increase is accounted for in part by the improvement of the breeds and the higher prices of meat products.

OLIVE INDUSTRY IN TURKEY.

LONGEVITY OF THE GROVES—WASTEFUL NATIVE METHODS.

Consul-General G. Bie Ravndal, of Beirut, sends the following report on the olive and olive-oil industry of that part of Asiatic Turkey:

The olive-oil industry is an old one in Syria. Some of the producing trees are 300 to 500 years old, while others were planted by the Crusaders.

There is an orchard near Tripoli (in Syria) whose history is definitely established by a trust deed covering 490 trees, which was issued four hundred and ninety-nine years ago. The trees look old, but they bear fruit abundantly. Large groves exist in the vicinity of Latakia, Tripoli, Beirut, Haifa, and Nablus. The Shwayfat grove, south of Beirut, is claimed to be the third largest in the world.

Few new orchards are being started, as it takes a comparatively long time to get a crop. However, during the last five years there has been a tendency to protect and extend the industry. At Sufeta, in the hinterland of Tripoli, only a few years ago, an old resident planted on some unimproved land 300,000 young trees.

Usually the farmer takes but little care of his olive trees. When the crop is ready to be gathered women and children with long sticks whip off the fruit and with it a large quantity of new and tender branches. This custom of roughly beating down the fruit is said to be responsible for the fact that the olive trees yield a crop only every other year.

AMERICAN COLONISTS INTRODUCING IMPROVED METHODS—PRICES.

The natives are learning by degrees how to cultivate, harvest, and press the fruit. The American colonists at Haifa have proven that by proper treatment the olive tree can be made to bear fruit every year; that by picking the olives from the trees instead of knocking them off with sticks and stones, by carefully grading the fruit when picked, and by the introduction of modern olive presses, the industry may be rendered very profitable.

While a few modern oil presses have been imported from France recently, the mills most used are of primitive character and identical with those in vogue four thousand years ago.

At Tripoli and at Haifa it is now proposed to erect plants for the reduction of the pumice, which is said to contain from 10 to 15 per cent of oil. In view of the crude methods of extraction in vogue this estimate appears conservative.

As a rule the mills do not buy olives but grind and press the fruit for one-tenth of the oil yielded. Similarly, the pickers do not work for a stated wage but receive 5 per cent of the fruit picked. The average yield of oil per ton of olives is 60 to 70 gallons, and the average price of commercial oil under normal conditions may be put at $136 per ton. At present the price at Beirut is $234 to $262 per ton. No new crop can come into the market until October or November next, and in the meantime olive oil quotations are likely to rise still higher.

Ordinarily Asiatic Turkey produces in a year about 1,646,120 barrels of olive oil, as compared with 1,408,560 for Spain and 1,375,980 for Italy. Much of the Syrian olive oil enters into the manufacture of soap. The soap output of Tripoli, Beirut, Nablus, and other Syrian centers enjoys a wide popularity in Egypt, Arabia, Mesopotamia, and other parts. White castile soap is exported from Haifa to America. The product of the Alexandretta, Tripoli, Beirut, Haifa, and Nablus soap factories ranges in value from $500,000 to $750,000 annually. There are numerous smaller soap manufacturing concerns throughout Syria and Palestine.

MARKET FOR AMERICAN VEGETABLE OILS IN SYRIA.

Owing to the shortage in the olive crop last year throughout Asiatic Turkey, the present is a most favorable time for the introduction of substitutes for olive oil. American cotton-seed oil and also corn oil are now being used in Syria for the manufacture of soap. Corn oil would make an acceptable substitute for olive oil in soap making but for the fact that it fails to render the soap hard enough. Suggestions to overcome this drawback are solicited.

As to the importation of cotton-seed oil, satisfactory connections for permanent business have not yet been established. Inquiries on the part of a local firm after considerable delay led only to unsatisfactory relations. This house deals in soda, natron, and other supplies required by the soap manufacturers of Palestine and Syria and is in excellent position to introduce suitable American oils. [Address on file in Bureau of Manufactures.] Egyptian cotton-seed oil during the last few months has increased in price so that the firm in question has ceased to import that article. The firm referred to is reputed to be the largest of its kind in these regions, and American exporters of cotton-seed oil would do well in forming business connections with it.

RICE CULTIVATION.

FORMOSA.

PRODUCTION AND VALUE OF THE ISLAND'S CHIEF CROP.

The following information relative to rice cultivation and export in and from Formosa is furnished by Consul Carl F. Deichman, of Tamsui:

The total area of Formosa is about 8,864,371 acres. With the exception of a narrow strip of plain along the coast, the entire eastern half of the island is a rugged, mountainous region still occupied by savage tribes and covered with virgin forests, with small areas under cultivation. The total area used for agricultural purposes amounts to 1,618,800 acres, of which 788,470 acres are in rice fields. About 64 per cent of the population is engaged in agricultural pursuits, and agriculture may be said to be the economic basis of the island.

Rice, tea, and sugar are the principal crops, and of these rice is the most important. The total production of rice in 1907 was 44,760,430 bushels, valued at $22,410,000, and with improved methods of cultivation and the extension of irrigation to the rice fields, the production is steadily increasing.

PLANTING, HARVESTING, AND MARKETING.

In the northern part of the island the principal or first crop is planted in January or early in February, during the rainy season, and the second crop when the first is harvested, but the second crop, on account of the hot summer, is never as large as the first. The first crop is transplanted in March and harvested toward the end of June; the second crop is transplanted in August and harvested in November. The total acreage of rice planted in 1907 was 536,484 acres for the first crop and 631,578 acres for the second crop.

The rice is usually stored unhulled. Hulling is a distinct business, the hullers or their buyers usually going from place to place to buy it, and after hulling, selling it to the brokers. The huller often lends money to the rice grower to raise his crop, taking rice in payment for the advances. Sometimes the rice is sold in the field, and the huller does the harvesting.

In the seventeenth century a number of Chinese immigrants brought into Formosa seed rice, which they cultivated in the Chinese way, producing larger quantities and better grain than was produced by the Formosans, who had cultivated rice from early times and had produced therefrom a distilled spirit for drinking. The Formosans adopted the Chinese manner of cultivation.

The following statement shows the expense of growing 1 ko (2.4 acres) of rice, under normal conditions, where the land is owned by the planter; where the land is rented the additional expense of renting must be added. The average yield of 1 ko of land is 208 bushels of rice, valued at $99; value of the straw, $6; total, $105; the total expense of cultivation, including seed, labor, etc., is estimated at $41; taxes, $6; total outlay, $47; net income, $58.

The exports of rice from Formosa in 1908 were as follows: To Japan, 338,311,743 pounds, valued at $5,043,728; to foreign countries, 16,587,452 pounds, valued at $208,736; total exports, 354,899,195 pounds, valued at $5,252,464.

BRITISH INDIA.

DECREASED AVERAGE SOWN AND ESTIMATED INCREASED OUTPUT.

Consul Nathaniel B. Stewart, of Madras, transmits an extract from the Indian Trade Journal, of February 22, purporting to be a final estimate of the rice crop of India for the 1908–9 season, from which the following statistics are compiled:

The total area under rice in 1908–9 was 52,426,800 acres, a decrease of 2,250,500 acres from the preceding year, but the estimated yield of cleaned rice is 22,338,949 tons, of 2,000 pounds each, an increase of 1,103,116 tons as compared with the yield in 1907–8. The following statement shows the areas sown and the yield in tons, of 2,000 pounds, for the years 1907–8 and 1908–9, by provinces:

Provinces.	Area.		Yield.	
	1907–8.	1908–9.	1907–8.	1908–9.
	Acres.	*Acres.*	*Tons.*	*Tons.*
Bengal	24,452,100	22,454,400	7,858,497	9,233,717
Eastern Bengal and Assam	15,758,100	15,322,500	7,068,964	6.815,144
Madras	7,215,100	7,103,600	2,772,084	2,547,328
Lower Burma	7,252,000	7,546,300	3,536,288	3,742,760
Total	54,677,300	52,426,800	21,235,833	22,338,949

IMPROVING IRISH AGRICULTURE.

MOVEMENT FOR THE INTRODUCTION OF ADVANCED APPLIANCES.

Consul H. S. Culver, of Cork, reports as follows concerning a movement for the introduction of improved methods in Irish agriculture and the opportunity which may result therefrom for the increased sale of American machinery and implements:

The Munster Agricultural Society has recently inaugurated a new movement having for its object the introduction of improved methods in Irish agriculture. An effort will be made to bring Irish agricultural methods more up to date; introducing modern machinery, thus encouraging tillage as against the prevailing idea of dairy farming. Leading agriculturists insist that tillage is much more profitable, and that it will give employment to a greater number of people.

For this purpose, the South-East Ireland Agricultural Improvement Association propose to make public demonstrations throughout the country of practical up-to-date farming with the latest up-to-date machinery and appliances.

The first one of these demonstrations was held near the city of Waterford on St. Patrick's day, 1909, when a 20-acre field was broken up and prepared for potatoes, mangolds, turnips, etc. There was also shown in practical operation dairy machinery and utensils, and the different implements which no agriculturist engaged in mixed farming can nowadays afford to be without if he hopes to secure the best possible return from his industry. Hitherto Irish implement manufacturers and agents for agricultural machinery have found difficulty in introducing the latest agricultural machines into Ireland, complaining that the farmers will not purchase them. The farmers' excuse is that they are afforded no opportunities for judging of their utility beyond what is afforded by exhibiting them at cattle and horse shows. Now, however, the implement men mean on each holiday throughout the year to show all these labor-saving appliances at work.

Later in the year it is the intention to demonstrate, in centers yet to be fixed, the possibilities of the latest devices in hay-saving machinery, mowers, potato, mangold, and turnip diggers, etc.

American manufacturers of agricultural implements and appliances interested in the Irish trade should see to it that they are well represented at these meetings, for it certainly means the supplying of many new and approved American implements.

SMALL FARMS FOR URUGUAY.

THE BEGINNING OF THE SUBDIVISION OF LARGE ESTATES.

Writing from Montevideo, Consul F. W. Goding says that one of the greatest needs of Uruguay is believed to be the subdivision of the large "estancias," so as to allow an increase in the number of small farmers and a better system of tilling the soil. He gives an account of the efforts of the Government along this line:

The President in his recent annual message, expresses this thought in stating "the Government regards this as a problem of great importance." A draft of a bill, which doubtless will become a law, has been introduced having for its object the creation of a domestic colony, to be called "Republica," in the Department of Treinta y Tres, a sparsely populated district; 3,736.3 acres are to be purchased and divided into 70 farms of equal size, provision being made for annual payments extending over 10 years. The cost to each farmer will be the actual price paid by the Government, with the necessary expenses and interest added.

In allotting the land, preference is to be given to competent heads of native families accustomed to work and of good habits, with only one allotment to each family consisting of at least four persons. The colonist will be required to personally cultivate not less than one-third of his farm the first year and two-thirds for the following 9 years, assisted, if necessary, by peons. He must plant and care for at least 50 trees annually, from the second year onward. At the end of 10 years there must be sufficient trees growing, the fruit of which will satisfy the needs of his establishment. He is also required to keep in good repair the roads passing in front of his estate, acting with the authorities in this matter. Provision is made for advance payment, thus allowing for saving of interest, and when the entire indebtedness has been canceled the purchaser is to receive a deed.

In the event of a failure to make the required payments for 3 successive years, all rights to the estate are forfeited, the occupant expelled, and the title to land reverts to the State, all improvements to be sold to the next accepted purchaser.

The policy of the Government is to create other colonies as rapidly as funds can be provided for the purchase of land and to make the conditions of settlement and purchase so favorable as to encourage the native people to settle in rural districts.

FOODS AND DRINKS.

FRUITS AND NUTS.

MEXICO.

MANY TROPICAL FRUITS EASILY GROWN IN GULF REGION.

In the following report, Consul William W. Canada, of Veracruz, describes the leading tropical fruits of southern Mexico which are readily grown and may be shipped considerable distances:

In the State of Veracruz, from the coast up to an altitude of 3,500 feet above sea level, conditions for fruit culture prevail which are better than any to be found in any region farther north on the Pacific slope of this Republic; but these facts seem to have been entirely overlooked by investors, and no serious attempt has yet been made to develop its fruit industry. While in the northeastern part of the Republic in many places it is necessary to irrigate the lands, and the orchards are annually exposed to danger from frosts, the southerly region, along the line of the Ferrocarril Veracruz al Istmo, has abundant rainfall and is free from cold sufficient to injure the fruit trees indigenous to this part, or those which have so long grown in Mexico as to be considered as almost native to the soil. The importance of these two facts can scarcely be overestimated in the consideration of fruit culture.

THE CHIRIMOYA.

Among the native fruits are a number which grow in profusion, which will easily stand shipping, and which are almost unknown to the outside world, while their delicious flavor would insure them a ready market at remunerative prices, as they come in when fruits are not abundant in other localities.

The chirimoya Anona Humboltiana, a variety of the custard apple, may be found growing wild in a widely extended section of the Gulf slope. This fruit in an uncultivated state is small and much inferior to that grown under favorable conditions. In all the towns and villages in the State of Veracruz, and at an altitude of from 2,500 to 4,000 feet, it is grown in small orchards and attains quite a large size. Specimens from 4 to 5 inches in diameter are not uncommon, the flavor of which is most delicious when well ripened. In this State the flesh is of a soft custard consistency with a pronounced vanilla flavor. Cut when matured but not yet ripe, it will stand shipment for long distances very well. There should be no difficulty in sending this fruit by rail or water route to American northern cities. The Ferrocarril Veracruz al Istmo runs through that part of the country best adapted to raising this fruit, and the steamer lines from Veracruz provide rapid transportation to Gulf ports and other ports on the Atlantic coast. With scientific cultivation there seems to be no limit to the decree of perfection to which this fruit may be brought; even with the careless methods now pursued in this vicinity, the fruit is of good size and readily brings from 3 to 5 American cents, and as much as 8 cents each. The tree grows to a height of about 20 feet under favorable conditions, and will bear as many as 100 fruits. Proper cultivation will increase both the size of the tree and the size and quantity of fruits to the tree. Its cultivation offers an interesting and profitable study to the cultivator.

THE GUAVA AND ZAPOTE.

The guayaba or guava, Psydium sp., which is native to this section, offers great possibilities to the cultivator of tropical fruits. The guayaba is found nearly everywhere throughout the tropical region, but as yet little or nothing has been done to perfect the fruit by cultivation. In all parts of the gulf slope it flourishes, growing in dense thickets in many places. Naturally, the fruit in its wild state is rather small and inferior in other respects, but when the tree is given a fair chance, even without cultivation, it attains a height of from 15 to 18 feet, and the fruit will be from 2 to 3 inches in diameter. Its flavor is well known through the famous guava jelly. There are several varieties of this fruit, the most common being the red apple-shaped and the yellow pear-shaped. The former is usually rather small, but is of an exceedingly fine flavor. It is a heavy bearer and under favorable conditions a single tree will produce several bushels of fruit. The yellow pear-shaped fruit is very much larger and is also a heavy bearer. Both varieties ordinarily have blossoms and fruit in every stage of development at the same time—in fact, the trees are seldom without ripe fruit. With only the most primitive cultivation and by simply keeping under control the rampant tropical vegetation so that the sunlight can reach the ground, the bearing capacity of the tree is increased manifold and the size and quantity of the fruit are also greatly improved. This is another case where opportunity offers a wide and interesting field for the experimenter.

The zapote, Achras sp., of which there are several varieties, among which the zapote mamey and zapote chico are the most preferred, is a fruit of delicate flavor, and grows in profusion throughout this tropical region. The trees, however, are of slow growth, and for this reason do not furnish such an advantageous field for investment as do the chirimoya and the guayaba. The trees begin to bear in four to five years, and are very enduring, so that they offer a permanent income to the cultivator.

THE PINEAPPLE.

The pineapple is cultivated to a considerable extent in the region bordering on the Gulf, near Veracruz, and with satisfactory results. It grows to a good size and is of fine flavor. It seems to flourish at any altitude under 4,000 feet above sea level, and comes into bearing in one year. There are two varieties grown in this section—the common variety, which was found at an early period in the history of Mexico and is most extensively grown, and a larger variety, called the cayenne, which is not so widely distributed but is of much greater merit. The former, although small, is a solid and compact pine and stands shipment well. The latter variety is entirely free from spines and the flesh is much more tender and juicy. It grows to a large size; specimens from 12 to 14 inches in length and 18 inches in circumference are found here. The larger ones command as much as 75 American cents each, and the demand is far ahead of the supply.

The "pine" flourishes in all kinds of soil. The best results are obtained at an elevation of 1,500 to 3,000 feet. The plant thrives best in a sandy soil, but good results are obtained even in clayey soils. The cultivation of the "pine" is very simple. The land is cleared and as a rule is not plowed or turned over. A small hole is dug for the slip, and all the cultivation given is an occasional clearing with a hoe. With this simple cultivation fine fruit is produced. One plantation near Tierra Blanca, State of Veracruz, owned by an American, and another near Jalapa, owned by a naturalized American-Italian, are the best, as far as is known, in the entire Republic. The fruit on both thrives well on clayey soil of only moderate fertility, which had been planted in corn for generations. As a rule, better results are secured from localities on steep hillsides than from those on level ground. Lands suitable for planting may be had at $7.50 to $10 gold per acre near railroad transportation, and at a much lower figure at a short distance from the railroad.

CITRUS FRUITS—MARKETING THE CROPS.

The most profitable orange plantations are those planted in fruits of the citrus varieties. All of them will flourish in altitudes up to 4,500 feet, and bear plentifully. The sour orange and the lemon grow wild in the forests in great abundance and bear fruit the greater part of the year; the trees are extremely hardy and free from insect attacks and furnish excellent grafting stock, which may be had in unlimited quantities. Shipments of oranges are comparatively light as yet. During 1908 oranges were shipped to a total value of $33,417 gold. The oranges grown are, as a rule, seedlings, rather small, but of good flavor. Others grown in the Tlaliscoyan section are famous for their exquisite flavor. The fine California and Florida varieties grow vigorously and are excellent bearers. The crop comes in about October; much ripe fruit, however, is found as early as August and September, and again, ripe fruit is often gathered in January and February. Budded oranges are large in size, beautiful in appearance, and of fine flavor. They would command the highest prices on any market.

Another enterprise that promises great inducement to planters is the cultivation of the lemon. The trees grow rapidly and begin to bear the second year. The fruit is large and of superior quality. Trees are laden with fruit all the year round; some trees have not been without abundance of fruit for 7 years. No cultivation is attempted, yet the trees are vigorous and grow to a large size. The fruit is compact and stands shipment remarkably well. Lemons will thrive on any soil and at all altitudes up to 4,000 feet above sea level.

The grape fruit pays the planter well. The trees grow to a large size and are most prolific bearers. Trees have been known to carry 1,000 fruits at about 7 years, the branches covering a space of not less than 18 feet in diameter and being bent under the weight of the fruit. The average size of the fruit was over 4 inches, and it was compact and fine.

The only question open to discussion as to the profits of the fruit business in this country is that of marketing the crop and the kinds that will best stand shipping. As there have been no crops to market, naturally no facilities have been provided for handling any large amount of fruit. There is plenty of push in transportation companies, but business must be in sight before they could be expected to supply the facilities. They will meet the producer halfway in any enterprise that is taken up seriously. No more than this can be expected by the planter, who, in the development of his business, may rest assured of square treatment by the transportation companies, the Government, and the officials of the State of Veracruz.

NICARAGUA.

CULTIVATION OF BANANAS TO BE UNDERTAKEN ALONG WEST COAST.

Consul José de Olivares, of Managua, forwards the Spanish text of a concession granted by the Nicaraguan Government in favor of a firm, one member of which is an American, providing summarily as follows:

The firm undertakes to establish in western Nicaragua the cultivation of bananas for export, together with a line of steamers on the Pacific coast for the transportation of that product, it being stipulated that the steamer service must begin within 1 year from the date of approval by Congress of the concession.

The firm agrees to pay at the rate of 30 cents gold for every full bunch of bananas delivered alongside its vessels, and assumes the responsibility of any of the fruit that may be lost through its failure to provide adequate transportation. The exclusive right of exportation of bananas from the districts bordering on the Pacific Ocean in Nicaragua is granted to the firm for the period of 30 years.

PRIVILEGES AND REQUIREMENTS.

The concession carries a grant of 50,000 hectares of land (1 hectare=2.471 acres). The firm agrees to cultivate 25,000 hectares of the land allotted to it during the first 10 years of the life of the concession, and in the event that the amount of land cultivated within that period should fall short of the number of hectares stipulated the firm must pay a fine of $50,000 American gold.

The privilege of constructing the necessary railroads and docks for the proper handling of the banana crops is accorded the firm, as also the free importation of all machinery, construction materials, and supplies that may be required in establishing and conducting the enterprise. This concession, like many others granted by the Nicaraguan Government, is provided with a clause permitting that it may be transferred to a third party.

Up to the present time bananas have been grown only to a limited extent in western Nicaragua, the production being barely sufficient for local consumption. No bananas have ever been exported from the Pacific-coast districts, where the summer season is long and exceedingly dry and generally unfavorable to the cultivation of bananas, which fruit requires the constant and abundant moisture characteristic of eastern Nicaragua. This project may therefore, for the present, be considered entirely in the light of an experiment.

[The address of the concessionaires is filed for reference at the Bureau of Manufactures.]

GREECE.

LARGE CURRANT CROP AND LOWER PRICES—FURTHER UTILIZATION.

Consul Edward I. Nathan, writing from Patras under date of March 8, 1909, reviews the conditions in the Greek currant market as follows:

The Greek currant crop of 1908 exceeded the estimate of 170,000 tons and is second only to the crop of 183,000 tons in 1903. The long period of drought which prevailed during August enabled the growers to gather and dry their currants with success. As the stocks from the previous season here and abroad were small, the merchants anticipated a profitable season and made many shipments to England and continental Europe on consignment, hoping to realize handsome profits. Herein they were disappointed. As consignment after consignment came and the demand was small owing to the general economic depression, prices gradually fell and the consignors in many cases suffered heavy losses. But there was an additional factor. The Privileged Company, it will be remembered, under a convention of 1905 with the Greek Government, is entitled to a 35 per cent export tax. This tax is payable in kind out of the inferior quality currants, which are forbidden to be exported and are utilized in the manufacture of wine, spirits, etc. In return for these currents deposited retention warrants are given. These retention warrants are available in lieu of the export tax, and sufficient must be deposited at the custom-house to show that currants have been deposited at the company's warehouses to an amount equaling 35 per cent of the quantity of currants exported. The price of the warrants rose to 117 drachmas per 1,000 Venetian pounds ($21.41 per 1,050 English pounds), which was 2 drachmas (36.6 cents) above their par value of 115 drachmas ($21.04), the minimum price fixed by the currant convention for all currants deposited. As shipments of currants decreased and deposits became larger and more numerous the price of the warrants even fell below par, despite the efforts of the Privileged Company to maintain their parity.

THIS SEASON'S SHIPMENTS AND PRICES.

The present stock of currants for export is about 35,000 to 40,000 tons. This conclusion is reached as follows:

	Tons.
Shipments to February 28 (about)	100,000
35 per cent retention duty in kind	35,000
Total	135,000

	Tons.
Crop of 1908	170,000–175,000
Used for shipments	135,000–135,000
Balance	35,000– 40,000

The greater portion of this balance of 35,000 to 40,000 tons is now deposited with the Privileged Company against cash loans. The growers retain a right of redeeming these loans and again securing their fruit, and are awaiting a possible advance before the season closes. Should this not be realized they will release their deposits to the Privileged Company for utilization in spirit and wine manufacture.

The total shipments of currants for the season 1908–9 to February 28, 1909, were 103,169 tons gross, as against 125,312 tons gross for the same period of the season 1907–8. The decrease in shipments this season is particularly manifest in the case of those to the United States. Whereas the shipments for the present season to February 28 were only about 10,000 tons, those for the same period last year were about 15,000 tons.

This combination of circumstances, an unusually large crop, following the large crop of 1907, a dull market abroad, and large warehouse deposits at home, was sufficient to break the opening large prices, and good-quality fruit soon sold for 17 shillings ($4.14) per cwt., f. o. b. Patras, and lately prices of low grades have fallen to 15½ shillings ($3.77) per cwt. for low-grade currants. The general opinion is, however, that a rise is imminent.

EXTRACTION OF SUGAR FROM CURRANTS.

Although the problem of disposing of the surplus quantity of currants has been fairly well solved by their use in the manufacture of denatured spirit for lighting and heating purposes, a recent discovery promises to still further aid this. A Greek chemist, named Tassopoulos, recently discovered a process whereby the 60 to 65 per cent of sugar which the currant contains may be extracted and crystallized. There is now formulating a plan whereby this can be practically executed on a large scale, without detriment to the Greek revenues, of which the impost on sugar, 7½ cents per pound, is a large item.

FORMOSA.

NEW SOURCE OF REVENUE FROM THE CANNING OF PINEAPPLES.

Consul Carl F. Deichman, of Tamsui, states that the pineapple is perhaps the most important and valuable of all the fruits of Formosa. His report shows how its planting and canning is expanding:

Formerly the pineapples were practically all consumed in the districts where grown, and their cultivation for more than the local needs was not deemed profitable, as the cost of transportation to nonproducing districts was quite high as well as uncertain, and made the fruit so expensive there that the demand was practically nil. However, the advent of the railroad has made a great change in this industry by making it possible to ship the fruit cheaply to all parts of the island, thereby lessening the price in the nonproducing districts and increasing it in the producing districts and greatly stimulating the cultivation of pineapples, which has now become a profitable industry. The building of large canneries has still further increased the production and importance of this industry by assuring the grower of a market for a certain amount regularly, besides enabling him to utilize any surplus production and to produce the fiber from the leaf.

OUTPUT OF THE CANNERIES.

The largest cannery is at Hozan, in Hozan Prefecture, and was established in April, 1901, by the late Baron Kodama, former governor-general of Formosa. The output has been steadily increasing, and in the past five years has almost quadrupled. The output for the last five years is as follows: 1904, 94,400 tins; 1905, 98,000 tins; 1906, 220,000 tins; 1907, 330,000 tins; 1908, 350,000 tins. This cannery also extracts the fiber from the long leaf of the pineapple, which is used in the manufacture of grass cloth, and produces annually about 75,000 pounds of fiber. It is managed and financed by Japanese.

At Inrin, in Shoka Prefecture, is another large cannery, owned by Maruko & Co., of Kyoto, Japan, which has a capacity of 100,000 tins. This enterprise was so successful in 1908 that the owners propose to enlarge their plant to a capacity of 300,000 tins annually. At Nihachisui, in Shoka Prefecture, a company has been formed by a Formosan Chinese to operate a pineapple cannery this season, with a capital of $5,000 gold. The cannery in Daitotei, Taihoku, has a daily capacity of 3,000 tins, and employs from 60 to 70 men when working full time. It is owned and managed by native Chinese.

The number of tins put up in 1908 by the four canneries in operation last season is as follows: Taihoku, 110,000 tins; Shoka, 100,000 tins; Hozan, 350,000 tins. Their total value was about $50,000, the exports being to Japan.

It is hoped that the markets of Korea and Manchuria will offer a big field for this fruit from Formosa, and efforts are being made by the Japanese to introduce it there as well as increase the demand in Japan.

SOCIETY ISLANDS.

RAPIDLY GROWING AMERICAN PURCHASES OF COCOANUT MEAT.

The importation of copra, the dried meat of the cocoanut, into the United States has increased greatly in the past two years. It is practically all received at San Francisco. That city is also extending its factory operations for the utilization of copra. The importation of copra into this country during the calendar year 1908 amounted to 17,177,986 pounds, valued at $471,501, against 2,952,015 pounds, worth $117,618, in 1906. The import price during 1906 and 1907 averaged about 4 cents per pound, whereas last year it dropped to about 2¾ cents, in keeping with the reduced rates on so many articles of commerce. The ruling price of copra in Ceylon at the close of 1908 was 3½ cents per pound. The shipments of copra from the Society Islands are described in the following report from Consul Julius D. Dreher, of Tahiti:

According to the consular invoices, the amount of copra shipped to the United States from Tahiti, Society Islands, during the year 1908, was 3,129.8 metric tons (metric ton=2,204.6 pounds), valued at $175,460. The amount shipped during the months of January and February, 1909, was 2,106.7 metric tons, valued at $124,782. Of this copra the two lumber schooners, G. W. Watson and Alice McDonald, of San Francisco, took 1,104 tons, the remainder having been shipped by the Mariposa. This ship was unable to take all the copra offered for shipment on its January trip, and in February the quantity shipped filled all the available space that could be allotted to that product of this colony.

As most of the copra shipped during January and February was old stock, and as two of the leading exporting firms took advantage of the low rates offered by the schooners to make large shipments, it is not to be expected that such shipments will be maintained throughout the year. However, as the cocoanut crop is very good, the quantity of copra shipped during this year is likely to be considerably larger than it was in 1908.

HAWAII AND STRAITS SETTLEMENTS.

RAPID EXTENSION OF THE PINEAPPLE INDUSTRY IN THE PACIFIC.

The pineapple growing and canning industry in the Hawaiian Islands is rapidly extending. Large shipments are made, especially to the United States proper. The amount of canned fruit (practically all pineapples) thus forwarded here in the calendar year 1908 amounted to $721,859, against $601,748 in 1907 and $250,990 in 1906.

The present acreage of pineapples in Hawaii is estimated at 4,540 acres, from which 350,000 to 400,000 cases are expected for the year ending May 31, 1909. For the year ending March 31, 1908, the pack was about 190,000 cases, and only 90,000 cases for the previous twelve months. As an indication of the further extension of this industry the Honolulu Chamber of Commerce Annual says:

> Judging from the plantings that have been made which will fruit the following year, the pack for the year ending May 31, 1910, will run in the neighborhood of 550,000 cases, and if all those planning to plant pineapples during the coming summer carry their plans to maturity the output for the year ending May 31, 1911, would be likely to run close to 1,000,000 cases.

The pineapple industry of the Pacific Ocean region is now most extensive in the Straits Settlements. From Singapore in 1907 preserved pineapples were exported to the extent of 845,900 cases, valued at over $1,788,000. The declared exports of these goods to the United States were $133,532 in 1905, $188,506 in 1906, and $548,770 in 1907.

COFFEE INDUSTRY.

BRAZIL.

GOVERNMENT EFFORT FOR STIMULATING ITS CONSUMPTION ABROAD.

In reply to a communication from Boston relative to the propaganda for the increased consumption of Brazilian coffee in foreign countries, Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information:

About a year ago the government of the State of Sao Paulo made a contract with an English firm for a systematic propaganda in Great Britain in behalf of the berry. In further development of plans outlined at the time this first contract was entered into, the Federal Government of Brazil, in its last annual budget, appropriated $150,000 gold to be expended in a propaganda for the use of coffee abroad, the condition of the appropriation being that coffee-producing States should appropriate at least a similar amount for the same purpose. The last budget law of the State of Sao Paulo included an appropriation of $300,000 for the purpose, and it is understood that the States of Minas Geraes and Rio de Janeiro, between them, are to make appropriations averaging at least $150,000 each. There is, therefore, a sum equivalent to about $750,000 to be expended in the course of the current year, or under contracts made during the current year, in behalf of a more extended use of coffee.

Whether the United States is to receive any attention in this campaign is as yet uncertain. It is understood that the state and federal governments concerned have considered plans covering an extended advertising campaign in the United States, and have decided what they will do if they do anything. In fact, tentative arrangements may be said to have been made for this American campaign, if it is to be made. But whether the campaign is to be carried on or not depends upon a decision as to whether it will be more profitable to carry on such a campaign in the United States where consumption of Brazilian coffee is already the greatest in the world, both in actual amount and in per capita rate, or whether it will pay better to attempt to introduce coffee in countries where other products, like tea, are more generally used.

Among the Brazilian authorities there is a school which advocates a propaganda campaign in Russia for example, where the per capita consumption of coffee is very small, that of tea being large. The difficulty of carrying on such a campaign in such countries is being more and more appreciated, however, and it seems to be generally agreed that more strength is beginning to be felt by that school of propagandists which believes it the better plan to stimulate the use of more and better coffee, especially of Brazilian coffee, in countries where coffee, even ordinary grades of Brazilian coffee, are already known. The fact, too, that per capita consumption has been decreasing of late in the United States is leading the authorities here to appreciate the necessity of doing something to maintain the old-time rate of consumption and thus in a way keep closer in touch with the constantly augmenting world's supply of the berry.

THE CAMPAIGN IN GREAT BRITAIN.

What the actual results of the campaign in Great Britain to date have been has not yet been announced, nor is it likely that any formal statement in this line will be given. The plan followed, however, is of considerable interest to coffee men in the United States, whether there is to be an American campaign or not, one of the points of interest being the prices charged for the high grade Sao Paulo coffee sold under this government campaign in a country charging an import duty on coffee of 3 cents per pound. The Sao Paulo government, as reported in consular papers at the time, agreed to pay a certain London firm a total of £50,000 ($243,325), covering a term of five years, in which this firm was to superintend the sale of coffee in Great Britain from the State of Sao Paulo under regulations fixed by the state government. These regulations provide for the preparation of all coffee sold on this plan under the supervision of a representative of the State, for the sale of the product in certain packages at certain prices to the trade, and at certain prices by the trade to the public. The coffee to be sold by the firm for the State has been put on the market in England, and in a circular from the middlemen to the trade in Great Britain, some of the plans of the State and of the propaganda commission are indicated. This circular, after outlining the general plan of the propaganda represented by the contract the firm holds, and after explaining the resources of the State of Sao Paulo, its position in the coffee trade of the world, some of the merits of Sao Paulo coffee, and other such particulars, says:

> The coffees grown in the State of Sao Paulo are among the finest in the world, but hitherto only inferior grades have reached this country. The higher grades have mostly found their way to the interior towns of the United States and Germany, where they are in great demand. The first shipments of these fine coffees which have been received by this company have created general surprise among the trade in Mincing Lane, it being quite unknown that Sao Paulo could produce such a high grade article. "Fazenda" coffee will be roasted exclusively from such coffees, and steps have been taken by our buyers in Sao Paulo

that only the choicest selections shall be shipped for the use of this company. In order to insure the absolute purity of the "Fazenda" brand the Sao Paulo government have sent a special delegate to this country, where he will reside, who will supervise the whole operation of roasting, grinding, and packing. Every tin will bear the seal of the government as a guaranty of purity. We are obtaining very high medical opinions as to the merits of "Fazenda" coffee, and the names of prominent physicians who strongly recommend this wholesome beverage will be published in the advertisements. We may mention that the word "Fazenda" is the Brazilian name for plantation.

Show cards, booklets, etc., will be supplied in due course on a lavish scale.

Consumption of coffee in the United Kingdom.—It is not perhaps generally realized that the consumption of coffee in the United Kingdom is so very much smaller than that of other countries, being about one-half pound per head of the population, as compared with 5 pounds in France, 7 pounds in Germany, 12 pounds in the United States, and 18 pounds in Holland. It is quite evident, therefore, that there is room for great increase in the consumption; to the benefit, it is strongly claimed, both of the consumer individually and the nation generally and the grocer in particular.

Packing and sales conditions.—"Fazenda" brand will be packed at first in half pound tins only and in two styles, viz, (*a*) roasted and ground and (*b*) roasted whole berry. Both styles to be retailed to the public at the one price of 1s. 4d. per pound, or 8d. the half pound tin (32 cents per pound or 16 cents the half pound tin). No cutting of the price is to be allowed under any circumstances. The price by you to the grocer to be 1s. 1d. (26 cents) per pound, thus the very fair margin of profit of 3d. (6 cents) per pound, or 23 per cent, is allowed. This is proof enough that the Sao Paulo government wishes to work with and through the recognized channels of trade, and has no intention of ousting the retail grocer. The tins will be packed in wooden boxes of 14, 28, and 56 pounds.

Payment.—Terms of payment will be 2 months net.

Carriage.—Carriage will be paid on orders of 28 pounds and upward.

In the general outline of the propaganda given in the above circular a most noteworthy feature is that coffee thus selected from the very best Sao Paulo product, selected and prepared under government inspection and supervision, supported by elaborate advertising, allowing for expenses of buying, shipping, allowing for high commission charges before delivery to the jobber and for a high jobber's commission, and finally allowing for a retailer's profit of 23 per cent on a product not readily deteriorating, is sold to the consumer at 32 cents per pound in a country imposing a duty of 3 cents per pound on the green coffee.

NEW VARIETY.

SAO PAULO EXPERIMENTS RESULT IN IMPROVED BERRY.

Consul-General Anderson calls attention in the following report to a new variety of coffee in Brazil:

While the chief economic discussion in Brazil for a number of years has been the overproduction of coffee and the continued sale of low-grade coffee, the agricultural authorities of Sao Paulo have been conducting experiments which may have a very important bearing upon the coffee production of the State and of Brazil generally, and which are of decided interest to producers of coffee the world over. The state authorities announce the discovery, or rather the development, of a new variety of coffee, which combines the good features of being an early and abundant producer, while at the same time producing unusually large, fine berries. The authorities claim that the plant is beyond the experimental stage, and they are distributing sprouts of it for planting in the fazendas or plantations over the State, as an established commercial variety. The grower of this new variety is Dr. Gustavo d'Utra, formerly minister of state for agriculture in the State of Sao Paulo, and the report upon it is made by Dr. Mario Maldonado, inspector of the fifth agricultural district of the State. [Copy of which may be seen at the Bureau of Manufactures.]

Many of the largest coffee planters of the State are devoting portions of their estates to this new variety, though under the laws of Sao Paulo restricting the extension of coffee estates the new variety must be used only in replanting. The growth of the new variety has not continued long enough to enable any data as to its commercial success to be had.

TRADE OF SANTOS.

INCREASED EXPORTS FOR JANUARY AND FEBRUARY.

The statistics concerning this year's coffee trade of Santos are furnished by Deputy Consul Dirk P. De Young, of that Brazilian port:

The movement of coffee from Santos during the months of January and February was abnormally great. It is also noticeable that the United States has been the greatest purchaser, buying nearly one-half this extraordinary amount. The shipments were as follows, in bags of 132 pounds: United States, 1,193,112; Germany, 624,988; France, 263,657; Holland, 222,930; Austria, 161,329; United Kingdom, 68,594; Belgium, 72,350; all other countries, 93,839; making a total of 2,700,799 bags. According to consular invoices, the shipments of coffee from Santos to the United States in 1908 were 3,622,997 bags, against 3,038,608 bags in 1907.

Statistics show that coffee shipments to the United States, which extended practically over half-yearly periods in former years, were congested into the first 2 months of 1909. The most likely reason for this extraordinary phase of the coffee business is that the exporters here made strenuous efforts to dispose of their stocks before the 9,000,000-bag limit of the new valorization law was reached, the export duty of 1.43 cents per pound imposed by this law on all coffee of the current crop shipped in excess of 9,000,000 bags being almost prohibitive.

There still remain, since the limit of 9,000,000 bags was reached on March 3, over 1,000,000 bags, mostly in the hands of the planters.

This, it is believed, will come to Santos; but unless there is a strong advance in the foreign coffee market very little of it will be exported. On July 1, 1909, the export duty goes back to 9 per cent, as formerly.

The coffee business constitutes the greatest activity of this port; and when it has been contracted into so short a period of time in the coffee year, leaving almost 4 months between this and the new crop, it makes a long vacation for the many laborers dependent thereon for a living.

COLOMBIA.

CULTURE BY AMERICANS IN DEPARTMENT OF SANTA MARTA.

As a result of a visit to the district and an investigation of its possibilities, Vice-Consul Albro L. Burnell, of Barranquilla, reports that the slopes of the Sierra Nevada Mountains, within easy reach of the port of Santa Marta, afford conditions for the profitable production of coffee which can hardly be excelled, and that very little of these coffee lands are now under cultivation. He found that the most remote plantation, about 25 miles from Santa Marta, and 3,000 to 5,000 feet above sea level, was the property of an American. Of the large acreage of forest-covered land, secured by him nine years ago, 600 acres have been cleared and either planted to coffee or reserved for pasturage. He has about 265,000 coffee trees in the several stages of development, the oldest having scarcely reached maturity. The coffee tree begins to bear at 3 years and reaches its fullest bearing at 10 years. The vice-consul says that only those who have ample means and can give their personal attention to the requirements of the land should undertake the acquirement of coffee lands.

The vice-consul's report, which is on file in the Bureau of Manufactures, gives full information concerning the acquirement and the cost of lands, the starting and the care of a plantation, and the necessary labor to be employed, the planting and care of the trees, the gathering, cleaning, and shipment of the berry, etc.

MEXICO.

PROGRESS OF THE INDUSTRY IN OAXACA.

Consul Clarence A. Miller sends from Matamoros an extract from the Mexican Herald relating to the culture of coffee in the State of Oaxaca, which says in part:

> There was shipped from Oaxaca in 1908 coffee to the value of $639,117 gold, much of which went to the United States. The best product is from the district of Pochutla. On a few of the fincas in this district the bean is hulled by machinery, but it is generally treated by hand. In the latter case it is necessary to soak the bean for 3 or 4 days, when it is hulled by hand with a "metate." The last several years have been good ones for the coffee growers in Oaxaca, and a large number of improvements are being made. Several of the fincas are installing machinery, and others are planting additional tracts of land.

BRITISH INDIA.

PRODUCTION, HOME CONSUMPTION, AND EXPORTS.

Consul Nathaniel B. Stewart, of Madras, furnishes the following statistics covering the coffee industry of India during the fiscal year 1908:

The total quantity of coffee cured in India during the year ended March 31, 1908, was 29,326,528 pounds, of which 25,994,304 pounds were exported direct by the curers, leaving only 3,332,224 pounds for home consumption. In production the Province of Coorg heads the list with an output of 9,644,656 pounds; Mysore is second, with 8,929,088 pounds, and the Nilgiris, in Madras Presidency, third, with 4,925,088 pounds.

The area under coffee in India is as follows: Coorg, 46,393 acres; Madras Presidency proper, 49,416 acres; Mysore, 101,489 acres; Travancore and Cochin, 5,627 acres; Bombay Presidency, 74 acres; Assam, 84 acres; and Burma, 5 acres. Disregarding the division into British India and Native States, all but 0.15 per cent of the entire area under coffee may be said to be within Madras Presidency.

In yield of berry per acre there is great divergence in Indian coffee, due both to the soil and to the method of cultivation. The maximum yield is about 1,000 pounds per acre and the minimum 25 pounds.

The amount from plantations owned or managed by Europeans is far greater than from those of natives. On the former the average yield varies between 200 and 300 pounds per acre, while on the latter it is between 25 and 100 pounds.

As a whole, the production of coffee in India is slowly decreasing. The causes are the great and increasing output of Brazil, with which the Indian grower finds it most difficult to compete, and the leaf and twig diseases, which are most difficult to combat.

DAIRY PRODUCTS.

MEXICO.

HOME SUPPLY IS DECREASING, WHILE THE DEMAND INCREASES.

Although Mexico has an enormous cattle industry, Vice-Consul-General C. P. Mitchell, of Mexico City, says that the country is very short on dairy products, which leads him to call attention in the following report to the growing market for American supplies:

Mexico has not advanced in this direction so very greatly since the times when many an hacienda, owning hundreds of thousands of cattle, took its coffee without cream or milk, and knew not the taste of butter. In the City of Mexico to-day one of the trying questions before the public is that of the scarcity, quality, and dearness of milk, and its sanitary condition, as well as the methods of its production and sale. Interior cities are sometimes somewhat better off, but only in the smaller towns, villages, and ranches or haciendas is the milk supply actually adequate. Butter of native manufacture is usually unsalted, and is sold wrapped in corn husks; when fresh, it is extremely palatable, but it decomposes rapidly.

Both in the northern and southern part of the Republic enterprising Mexican hacendados have imported the most modern of butter-making apparatus, but their efforts have not been signally successful, and American residents in the country mostly buy imported butter, which is received in fairly large quantities. Three American groceries in Mexico City import from 500 to 1,800 pounds weekly for this trade, the major part coming from Topeka, Kans.: some from Abilene, Kans. A German firm in the State of Mexico manufactures butter which, though inferior to the imported, sells in the local market for one-fifth to one-third higher price. Cheese also is imported, partly from Pennsylvania, most of it coming in through jobbers. The native cheese at the present day is dry, poor in fats, and some of it insipid, although at times it is found with a rich nutty flavor, rather like some grades of Italian and Swiss cheese.

DIMINISHING OUTPUT—REFRIGERATION—NEW MARKETS.

The cheese of domestic production formerly was far more plentiful, cheaper, and better than the native product to-day. Present indications are that this staple will continue to become scarcer. Even now, in the large interior towns, for weeks at a time not a pound of Mexican cheese is found on the market. This dearth is due not so much to a lack of the raw material, or of facilities for making cheese, as to the fact that a large number of the people who formerly made small quantities from a limited number of cows have taken up other occupations. Thus the supply seems almost sure to diminish more and more. Hence, the field of dairy products offers a profitable opening here, whether in the direction of manufacture or of importation. It is said that certain foreigners have in contemplation the establishment of a large refrigerating plant, stock to be imported from the United States, but as yet nothing is definitely determined. In any event, the importation of dairy products, whether for storage or for immediate consumption, is one of the most promising in sight, as the supply here can not equal the demand for many years to come if the home product be relied upon.

As larger territories are opened up by the rapidly extending railroads, better markets are provided for both native and imported food products. With the improved transportation facilities, all such products can be sold at lower rates, thereby again inducing a larger consumption. Many kinds of imported goods are sold even now lower than home products, as in the case of butter made by the German firm.

NEW TASTES—CHEESE CONSUMPTION.

There will be a steady increase in the demand for dairy products from the foregoing reasons, and on account of the increasing number of foreigners residing in this country, as well as to the growing taste of Mexicans for butter and cheese. The latter they always have used rather freely in cooking; but, due to the predominance of stews and other gravied dishes in their cuisine, butter has never been an indispensable table article for Mexicans. Travel, however, and a growing knowledge and adoption of foreign customs is rapidly popularizing butter.

The greatest shortcoming of native-made butter is that it is not rich, being the same objection as to the cheese. This absence or lack of fatty matter indicates the breeding of cattle for beef, and not for milk.

The fancy cheese, such as club, cream, and various other varieties, not omitting the American, Swiss, and Italian grades, now so well produced in the United States, would sell well here if properly introduced, as Swiss, Italian, and Holland cheese in their various grades all have a good market. The American grades could be laid down here much cheaper and would be quite as acceptable, if suitably presented and marketed so as to make them known to the buying public.

PREPONDERANCE OF AMERICAN SALES.

The Bureau of Manufactures adds to the foregoing the statistics showing the exportation of dairy products and edible fats from the United States to Mexico during the past six fiscal years:

Article.	1903.	1904.	1905.	1906.	1907.	1908.
Butter	$77,648	$102,258	$126,714	$131,458	$148,181	$136,782
Cheese	39,978	46,169	42,828	42,020	43,126	53,581
Milk	63,691	91,126	95,632	120,577	98,483	79,023
Vegetable oils:						
Corn				399	20,057	15,453
Cotton seed	1,068,335	1,176,996	692,751	822,161	1,008,391	1,340,497
Linseed	13,326	20,652	10,621	40,009	66,158	55,172
Oleo products:						
Oil and lard	2,331	64	74	434		1,352
Butter	13,679	13,843	10,777	13,774	27,563	17,873
Cottolene, etc	100,009	162,859	217,321	439,724	680,771	484,711
Hog lard	320,691	230,616	343,059	528,748	655,408	911,744
Beef tallow	15,690	10,634	30,270	82,312	23,075	64,763
Total	1,615,369	1,715,378	1,570,077	2,221,616	2,771,208	3,160,951

The Mexican statistics of importation show that in the fiscal year 1907, which corresponds with the same period mentioned in the foregoing table, the receipts of some of these products were, in American currency, as follows:

Article.	From United States.	From other countries.	Article.	From United States.	From other countries.
Lard	$1,268,000	$115	Vegetable oils, cocoanut, linseed, corn, and cotton seed:		
Butter	140,500	31,700			
Cheese	50,700	198,700			
Animal oils:			In bulk	$1,050,000	$1
In glass jars	448	240	In kegs and tins	124,800	50,700
In wooden casks	22,450	2,125			

The latter table indicates that this country is supplying Mexico with the bulk of its edible fat and dairy product imports. The only competition seems to be in cheese, which Holland supplied to Mexico in 1907 to the extent of $136,800, and other European countries smaller amounts.

GREECE.

IMPORTS OF BUTTER—EXPORTS OF BUTTER AND CHEESE FROM SHEEP.

Consul Edward I. Nathan, of Patras, sends the following information concerning dairy products in that part of Greece:

Most of the good butter is imported from Denmark, Holland, and the island of Corfu. There is a possible market for American butter, but it would have to be worked up.

The native butter and cheese are made from the milk of sheep. Large quantities of these are now exported from Greece and Italy for consumption by the natives of these countries in the United States. It might be profitable for sheep farmers in the western United States to attempt to compete in the American market against these cheeses and butter. The cheeses exported from Patras are of two varieties, the ordinary white cheese, which is packed in barrels after being salted, and the so-called head cheese. The latter, which is the principal item of export, is made by first boiling the milk and then allowing fermentation to set in, after which the remaining solid mass is molded in wooden or iron receptacles. The value of the cheese exported in 1908 from Patras to the United States was $180,276.

SUGAR PRODUCTION.

BRAZIL.

PERNAMBUCO PRODUCT IS CONTROLLED BY A TRUST.

In forwarding the following information, Consul George A. Chamberlain reports that the sugar crops of Pernambuco have been controlled for two years by a trust composed of the producers and exporters:

The crops of Pernambuco sugar being small, it was found that by restricting sales for foreign export up to a fixed date an arbitrary price could then be maintained on sales for domestic consumption. As a result of this plan, last year domestic sugar was sold in Rio de Janeiro at three times the price sugar was sold in

New York, and foreign sugars, subject to a duty of about 8 cents per 2.2 pounds, found a sale in that market. The Government thereupon doubled the import duty on sugar.

CROP AND EXPORT DUTIES.

As to the probable size of the crop, it is now believed that it will yield close to 3,000,000 bags of 132 pounds each, or 396,000,000 pounds, a high average for the past being only 1,800,000 bags.

If the crop fulfills expectations, shipments to the United States should revive, in spite of the double handicap of the special reduction in United States duties on Cuban sugar and the Brazilian export duty to foreign countries, 2 per cent ad valorem, and to domestic markets, outside Pernambuco, 8 per cent ad valorem.

The local sugar trust, while it lasted and was favored by circumstances, proved a boon to all except cane planters selling to the mills. Factories which three years ago were on the verge of ruin, during the two years of the trust made big returns and were able to benefit in turn the exporters by paying back accumulated advances. Consequently, even with a big break in prices, the general conditions are sounder financially and more encouraging generally than for some years past.

Since the above was written the governor of the State has issued a decree to the following effect:

> The export duty of 2 per cent on sugar sold abroad is abolished; the export duty on gross sugars sold to national (home) markets is raised to 10 per cent; the export duty on all types of sugar sold directly by the cultivators or their representatives to national (home) markets is reduced to 6 per cent; the present decree shall take force immediately, and will be submitted to the approval of Congress at the coming session, which takes place on March 6 next.

MEXICO.

PRODUCTION IS STEADILY INCREASING.

El Hacendada Mexicano makes the following announcement in regard to the expansion of sugar production in Mexico:

> With the increased acreage planted in cane and the large factories all making sugar, there ought to be a considerable increase this year over any previous year, and the estimate is that no less than 125,000 tons ought to be the output. The exportation of raws to England will be greater than last year. The Central Paraiso Novillero has already made important shipments of very fine quality of imitation of Demarara crystal of a nice yellow color. Several other sugar factories are preparing to ship to London and Liverpool and all are trying to make the quality which sells the best and which is, aside from the Demarara crystal, a good, grainy, yellow, moist sugar. The prices have started this year favorably for the sugar makers. The total amount of sugar made in the Republic of Mexico in the fiscal year 1907-8 was, 123,285,312 kilos (kilo=2.2 pounds); total amount of molasses, 70,947,573 kilos; estimated amount of Panela made, 50,000,000 kilos.

The output, by fiscal year, for the past decade has been:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1899-1900	75,000	1903-4	107,000	1906-7	119,000
1900-1901	95,000	1904-5	107,000	1907-8	123,000
1901-2	103,000	1905-6	107,500	1908-9	[a] 125,000
1902-3	112,000				

[a] Estimated.

The production for the past season has been better than was anticipated, the amount of sugar made in excess of the estimated amount being 8,000 tons. Molasses has also shown an increase, due to the greater quantity of sugar produced. The provision for this year's crop is about 125,000 tons of sugar, owing to the installation of several new sugar houses and several old ones remodeled.

AUSTRIA-HUNGARY.

SUGAR PRODUCTION AND CONSUMPTION IN THE EMPIRE.

Consul Joseph I. Brittain, of Prague, in stating that the acreage planted to sugar beets in Bohemia in 1908 was slightly less than that of 1907, while the richness of the sugar was highly satisfactory, gives the following details:

In 1908 the acreage was 327,654 and in 1907, 328,395 acres, while the production of beets increased from 3,785,000 to 4,029,500 tons. The production of raw sugar in the same years was 670,300 and 685,300 tons, and for the entire Empire of Austria-Hungary 1,343,940 and 1,430,000 tons. There were operated last year 61 factories in Moravia and Silesia, 24 in Hungary, while out of a total of 204 sugar factories in the entire Empire 119, or more than one-half, were operated in Bohemia. The 1908 crop prices were quite satisfactory, averaging $4.84 for each 220 pounds, against $4.47 for 1907 and $3.98 for 1906.

The total consumption of sugar in the entire Empire during the three years was 556,971 tons in 1908, 526,647 tons in 1907, and 538,056 tons in 1906. Although the use of sugar last year showed a 5½ per cent increase over 1907, only 40 per cent of the production is consumed at home, and the balance must find a foreign market. The middle and laboring classes in Bohemia do not consume as much sugar per capita as do laboring people in the United States. The better grades of refined sugar retail at $0.074 per pound. The city of Aussig, on the river Elbe, is the collecting point for sugar shipments for foreign markets, it having direct access to the ocean. Freight rates for sugar per ton by water from Aussig to Hamburg in quantities not less than 10,000 tons are $2.38 per ton and by rail (364 miles) $7.66.

CANNED GOODS IN WALES.

LARGE CONSUMING PUBLIC AMONG THE WELSH COLLIERIES.

Consul Lorin A. Lathrop, in the following report from Cardiff, indicates a good market for American canned goods in Wales:

Cardiff supplies well over a million people with the things they eat and drink. These consumers are close together, within 25 miles of this city. The coal districts of Glamorganshire are so thickly populated in many of the valleys that the towns are continuous. The adult coal miners, heads of families, receive an average wage in excess of $12.50 per week and spend money freely on food. A compact mass of people willing and able to spend money on the American food products, which are not properly brought to their attention, awaits the seller. No market is more promising; nowhere is consumption more steady and regular. Though there is depression at the moment in the coal industry, and though the purchasing power of the miners will be largely decreased this year, nevertheless an approximate 40,000,000 tons of coal must be raised to the surface every twelve months in the counties of Glamorgan and Monmouth.

Local supplies of fresh vegetables from the stores are limited during a considerable part of the year. Though the coal miner wherever possible plants a small allotment to potatoes and cabbages, he supplements his dietary with vegetables and fruits canned or otherwise preserved.

A striking illustration is to be found in the history of the dried pea in Glamorganshire. Ten years ago dried English marrowfats were practically unknown to the Welsh coal miners. They were introduced by a Cardiff firm, packed in 1-pound packets, which are generally sold retail at 8 cents, wholesale prices running generally about $8.64 per gross. The sale during the season from January to March, 1909, is believed to exceed 2,000,000 pounds.

With each packet is sold a small lump of carbonate of soda. After the peas have been soaked over night they are boiled with this carbonate, which maintains the green color. A lump of sugar is introduced, and perhaps some mint or parsley.

Notwithstanding the great importation in Britain of dried, bottled, and tinned vegetables from the continent of Europe, these peas are of English origin, the large marrowfat lending itself well to the drying process. There is no reason why American growers of a similar product should not secure a share in this market.

OPPORTUNITY FOR CORN.

American canned corn ought easily not only to make its own market as an additional product, but to take the place, to some extent, of the dried peas. It is much easier to prepare for the table—a consideration with the collier's wife. It is sweeter and takes less time to cook, thereby saving fuel.

There is only one way, however, in which the corn can be introduced, and that is by local demonstration in the small grocery stores throughout the district. The history of a well-advertised special product of the United States is interesting. The company which exploited this commodity booked dates with grocers and sent an attractive and neatly dressed young lady around, who was supplied with an oil cooking stove and a well prepared booklet. The grocer was glad to furnish a corner of his store without asking an exclusive contract for the sale of the product. The appetizing products of the agent's skill, which were given to the customers of the store, and many of which were eaten on the premises, were incidentally an advertisement; hence the grocer's willingness to allow the use of his store.

In this case, and in another in which similar tactics were pursued, and where inexpensive little watch charms were given, the results are said to have been entirely satisfactory. A large trade has ensued, and the special products are found in 99 out of every 100 grocery stores, even in the small villages. Yet in each of these cases the commodities were in the nature of luxuries. Results should be greater with canned corn, which ought to become a staple.

FLOUR IN VENEZUELA.

TARIFF DECREE REGARDING THE IMPORTATION OF WHEAT AND FLOUR.

Vice-Consul Herman F. Betow makes the following report from La Guaira, under date of March 21, on the Venezuelan flour trade:

The roller flour mill erected by an American company for La Compañia Anonima de Molinos de Trigo de Venezuela, with head offices at Caracas and mills at Maiquetia, Venezuela, has been compelled to shut down, owing to adverse circumstances affecting the condition of the trade. This mill started in the fall of 1906 with a contract capacity of 400 barrels daily (24 hours), but it exceeded the contract capacity by about 42 per cent. It turned out, from Manitoba and Duluth wheat, a high grade of flour, which gave universal satisfaction. The mill, profiting by advantageous tariffs, gained practical control of all the profitable Venezuelan markets. Though it has closed down its plant, the company to-day is financially sound and stands on a firm basis.

CAUSES AND EFFECT.

A year ago the bubonic plague made its first appearance in Venezuela at La Guaira, at which time the port was closed to the traffic of the world. After the appearance of the plague sales were almost impossible. On April 18, 1908, a decree was issued closing the port to the world; this decree remained in effect until May 23, 1908, during which time the mill closed down because of the impossibility of marketing its product. Among the several decrees issued since last November were two affecting the wheat and wheat flour tariffs of Venezuela.

According to the tariff schedule of 1908 wheat in the grain was placed in the second class, which pays 0.10 bolivar per kilo (bolivar=$0.193; kilo=2.2 pounds) plus 20 per cent. Wheat flour was placed in the third class, which pays 0.25 bolivar per kilo plus 5 per cent.

By a decree of January 7, 1909, the 20 per cent on wheat and the 5 per cent on wheat flour were removed. This decree remained in force only 4 days. On January 11, 1909, a new decree was issued placing wheat, wheat flour, and broken wheat or semola in the third class, subject to a duty of 25 centimos of a bolivar per kilo.

Upon the latter decree becoming effective, the milling company decided to import no more wheat, close down the plant, and dispose of all stocks. This it has done. The head miller departed for the United States on March 17. There seems to be little prospect of the mill resuming opperations in the near future and under the present tariff schedule. The mill was operated during the daytime only.

Approximately half a million bushels of wheat, all of which came each year through the port of New York to Venezuela in American bottoms, will now cease to be imported by Venezuela, and a market for approximately 110,115 barrels of wheat flour will be reopened to the flour producers of the world.

COMPARATIVE COST OF WHEAT AND FLOUR.

Freight on wheat from New York to La Guaira is 15 cents per bushel plus 5 per cent primage. The rate on flour between the above-mentioned places is 25 cents per 100 pounds. The charge for handling freight over the La Guaira docks is 2 bolivares per 100 kilos, or $0.1759 American gold per 100 pounds. The price of the best grades of flour as quoted by the agencies is 18 pesos (14.40 pesos fuertes), or $13.896 in American gold. The total cost of laying down American flour in La Guaira (taking it for granted that the flour is f. o. b. at New York) is 7.76 pesos fuertes, or $7.4887. The difference, or $6.4073, represents the original value of the flour plus the profit that the manufacturer and seller may receive.

Using the best output ever secured by the local mill, 4.42, or 4 bushels and 25.2 pounds per barrel of flour, as the basis upon which to figure the comparative cost of importing a barrel of flour and the material from which to make a barrel of flour, one finds the following profit in favor of flour as against wheat. The figures are taken from schedules actually in use and the table represents the charges that would be actually encountered on the importation of a single barrel of flour, or the wheat necessary to manufacture a barrel of flour, both Venezuelan currency and the American equivalent being given:

Charges.	One barrel flour.		4.42 bushels wheat to make 1 barrel flour.	
	Venezuelan.	American.	Venezuelan.	American.
Freight	$0.50	$0.4825	$0.6630	$0.6397
Primage			.0331	.0319
Dock charges	.3563	.3447	.4821	.4664
Duty	4.4545	4.2985	6.0250	5.8141
War tax, 30 per cent	1.3363	1.2890	1.8075	1.7442
Transit tax, 25 per cent	1.1136	1.0740	1.5060	1.4532
Total	7.7607	7.4887	10.5167	10.1495

The difference of $2.66, as shown by the table, represents the extent of the profit in favor of wheat flour as against wheat.

FORMOSA TEA.

EXPORTS TO THE UNITED STATES FALLING OFF IN RECENT YEARS.

Consul Carl F. Deichman, of Tamsui, furnishes the following information concerning the tea export from Formosa in 1908, and the condition of the industry:

Tea is the principal article of export from Formosa to foreign countries. During the year 1908 the export to Japan was 663,555 pounds, and to foreign countries 22,577,392 pounds, a total of 23,240,947 pounds, valued at $3,080,935, the bulk of which went to the United States. Oolong and Powchong are the teas exported, the Oolong going to the United States, Europe, and Japan, and the Powchong to China, Hongkong, and the Philippines.

The export of Oolong tea to the United States has fallen off considerably in the past two years, and the Formosan Government is considering the advisability of rescinding the export tax, which is 1.60 yen (79.6 cents), and the internal or likin tax 2.40 yen ($1.19), a total of 4 yen ($1.99) per picul (133 pounds), to aid the Formosa tea men in meeting the competition of China and Ceylon teas, which seem to be supplanting the Formosa tea in the American markets.

The export of Powchong tea on the other hand seems to be increasing steadily, the export for 1908 showing a substantial gain over 1907, 500,000 pounds, or about 8 per cent, China being the principal consumer.

It is claimed that Oolong tea can not be produced any cheaper than the prices prevailing in 1908, which were very low, and the growers did not pick the full crop, claiming there was no profit in picking the tea at such prices. It has been estimated that from 500,000 to 1,000,000 pounds more Oolong could have been produced if there had been a demand for it at a better price. It would seem, therefore, that there is some foundation for their contention that the prices were too low and that upon the present basis of values in the United States there is small hope for an increase in the production of Oolong tea.

The cost of producing Formosa teas depends largely on the cost of labor, which has increased very much, owing to the rapid development of the island in the last few years, and there is no immediate prospect of labor getting cheaper.

The following table shows the exports of Oolong and Powchong tea for the year 1908 and the countries to which exported:

Countries.	Oolong.		Powchong.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Pounds.*	
United States	16,195,330	$2,211,558		
England	325,323	45,335		
Germany	16,971	2,679		
Australia	45,104	5,216		
Portugal	805	105		
Hongkong	399,145	50,131	165,987	$20,218
China	47,506	6,468	5,337,521	652,297
Philippines			43,700	8,736
Japan	663,555	78,192		
Total	17,693,739	2,399,681	5,547,208	681,251

TAPIOCA TRADE.

AMERICAN IMPORTS OF TAPIOCA—PRICES AND USES IN HOLLAND.

The imports of tapioca into the United States are increasing, those for the fiscal year 1908 having been 49,806,092 pounds, valued at $1,408,177, against 43,647,731 pounds, worth $1,271,350, in 1907. It enters free of duty, nearly the whole imports coming from the East Indies. Considerable quantities come via European ports, and Consul-General Soren Listoe, of Rotterdam, sends the following account of the shipments from that Dutch trading city:

The value of declared exports of tapioca from Rotterdam to the United States in 1908 was $21,599. No food product certificate is attached to the invoice when presented here for legalization, as it is claimed by the shippers that the tapioca flour forwarded from this port to the United States is all of an inferior quality, and used solely for technical purposes, such as, for instance, hardening or stiffening textile fabrics. The average price of this grade of tapioca flour is 8 florins ($3.22) per 100 kilos (220 pounds).

The large shipments of tapioca flour made direct from the Netherlands East Indies to the United States must evidently be of a better quality than the kind purchased in the Netherlands, as the average price of same is stated to be 12 florins ($4.82) per 100 kilos.

My informant states that in Europe the higher grade of tapioca flour is used mostly for the manufacture of cakes and sweetmeats, owing to the fact that this flour is said to produce such articles of a particular crispness and firmness.

Tapioca flour is the ground or granulated root, or rather bulb, of the tapioca, cassava, yuca, mandiocca, or manihot plant (as it is variously known), which is largely cultivated in the Netherlands Indies.

Tapioca flour is admitted free of duty in the Netherlands. Sweetened tapioca containing not more than 10 per cent of any sweetening substance, and intended for the preparation of puddings, soups, sauces, etc., pays 2 florins (80 cents) per 100 kilos, and if containing more than 10 per cent sweetening, 25 florins ($10.05) per 100 kilos.

ALCOHOLIC LIQUORS.

UNITED KINGDOM.

STATISTICS SHOW A LARGE DECLINE IN EXPENDITURE.

The London Times has just published Dr. Dawson Burn's annual statement of the British nation's drink bill, which Consul Church Howe, of Manchester, states shows an actual decrease last year of nearly $29,000,000, or, allowing for increase of population, a decrease in expenditure equal to $36,644,321. The following are the items:

	1908.	Decrease from 1907.
Spirits	$245,890,521	$12,273,381
Beer	480,899,821	12,365,806
Wine	49,710,743	4,344,315
Other liquors	7,299,750	....
Total	783,800,835	28,983,502

The sums spent per head of population in the three divisions of the United Kingdom were:

	England.	Scotland.	Ireland.
Spirits	$4.90	$9.63	$5.99
Beer	12.08	3.59	8.33
Wine	1.18	1.03	.57
Other liquors	.18	.04	.06
Total	18.34	14.29	14.95
Alcohol ....gallons	1.9	1.3	1.5

CANADA.

STATISTICS OF CONSUMPTION OF STRONG DRINK IN THE DOMINION.

Consul Harry A. Conant, of Windsor, transmits a signed press statement sent out from Toronto and published in the Windsor Record of April 12, which contains the following statistics:

The number of gallons of liquor entered for consumption during the past 4 years, 1905–1908, per 1,000 of the population, was as follows, in gallons: 5,931, 6,207, 6,624, and 6,797, respectively. The consumption of spirits was somewhat less in 1908, but the consumption of malt liquor was greater, and on the whole there was an increase of strong drink consumed, even in excess of the increase of the population. The following statement shows the kinds, quantities, and value of liquors consumed in 1908:

Description.	Gallons.	Value.
Canadian spirits	3,927,312	$23,563,872
Imported spirits	2,127,478	17,019,824
Canadian malt liquors	38,800,380	27,160,266
Imported malt liquors	1,096,256	2,192,512
Wines	1,386,235	6,931,175
Total	47,337,661	76,867,649

The customs and excise duty collected on the foregoing amounted to $14,669,627.

ARGENTINE MEAT TRADE.

RENEWED EFFORTS FOR CATTLE EXPORTS TO THE UNITED KINGDOM.

While the imports of frozen beef into the United Kingdom from Argentina are steadily increasing, amounting in 1908 to 402,047,632 pounds, valued at $29,696,823, as compared with 129,047,632 pounds, valued at $9,994,179 in 1903, there have been no imports into the United Kingdom of Argentine live cattle since 1903, when the imports were 27,807 head, valued at $2,219,124, in a total import of 519,794 head, valued at $39,035,471. The cause of the cessation of imports of live Argentine cattle was the closing of British ports thereto on account of foot-and-mouth disease. According to a Buenos Aires correspondent of the London Times, it is apparent that the cattlemen of the Republic are now seeking to have this embargo lifted and to make British ports once again free to Argentine live stock. The correspondent reports that the Sociedad Rural Argentina has approached the Government with a view that steps be taken through the Argentine minister at London to obtain the reopening of British ports to Argentine live cattle and sheep, the present being an auspicious time to secure this reopening "in view of the recent outbreak of foot-and-mouth disease in the United States and the closing of British ports to American live stock, and taking into account the fact that the disease has practically disappeared from Argentina." The society further represents that it is becoming necessary to find an outlet for the rapidly increasing live-stock production other than in the form of frozen meat, and the opening of British ports would secure this outlet and insure at all times a healthy competition "which would make almost impossible the formation of a trust among the 'freezers' to the detriment of the traders and country generally."

FOREIGN INTERESTS AND EXPORTS STATISTICS.

It would seem from this correspondent that American packers are securing possession of some Argentine refrigerating establishments, for in addition to the purchase of the La Plata establishment some time back, the Swift Company has now bought the La Blancha at a purchasing price, as announced, of $7,800,000. The former manager of the La Blancha, in the interest of the Swift Company, is now in Chile studying the possibility of setting up a "freezer" in the far South. The correspondent also announces that a syndicate of German capitalists has been formed with the purpose of floating a company for erecting a "freezer" in Patagonia for the shipment of meat by direct steamer to German ports.

The correspondent gives the exports of frozen and chilled meat for Argentina in 1906, 1907, and 1908, as follows:

Description		1906.	1907.	1908.
Beef	quarters	2,060,221	1,894,082	2,445,358
Mutton	carcasses	3,274,639	2,907,191	3,334,828
Lambs	do	74,719	90,800	359,290

WATER PURIFICATION.

ADVANTAGES OF STORING PREVIOUS TO ITS FILTRATION.

Consul-General Robert J. Wynne, of London, transmits the following synopsis of a report made by Dr. A. C. Houston, director of water examinations, to the Metropolitan Water Board, of the British metropolis, on the advantages of storing water for some time previous to its filtration:

Storage reduces the number of bacteria of all sorts, and, if sufficiently prolonged, devitalizes the microbes of water-borne disease (typhoid bacillus and cholera vibrio). An adequately stored water is to be regarded as "safe."

The use of stored water enables a constant check to be maintained on the safety of London's water antecedent to and irrespective of filtration. It renders any accidental breakdown in the filtering arrangements much less serious.

The habitual use of stored water would lighten the grave responsibilities of the water board as regards the safety of the London water supply, and would tend to create a sense of security among those who watch over the health of the metropolis.

Raw river water should be stored antecedent to filtration preferably for 30 days. The question of whether the 30 days' storage should be fixed on a maximum or on a minimum basis must be left unanswered; but if the former alternative be chosen, the desirability of employing supplementary processes of water purification to tide over emergencies is worthy of consideration.

FOREST PRODUCTS.

RUBBER CULTURE.

MEXICO.

THE INDUSTRY NOT AS PROFITABLE AS WAS EXPECTED.

Consul William W. Canada, of Veracruz, in reply to many inquiries from the United States, furnishes the following information relative to the condition of the rubber industry in Mexico:

I submit the following short report on the question of rubber culture in Mexico, prepared by one best qualified to give the facts, and by his permission:

> The tapping was begun in October and completed the first week in February. The rubber is now well dried, except the last few sheets, and it weighs 590 pounds. This is practically the same as last year's product, but that was secured by two tappings, while this is from one only. This year we secured about 75 pounds of our crop from young trees never before tapped; the balance represents about 1⅔ ounces per tree throughout our 10-year-old fields. The output is not particularly encouraging, as it is 8 per cent less than last year's average, while we made this season 50 per cent more cuts to the tree in our single tapping than we did in both tappings last year. The thrifty trees gave 50 per cent more latex than last year, but this was offset by our losses among the backward trees, and the latex proved to be thinner than last year, as equal units of liquid measure dried down to less rubber. This was due partly to tapping higher on the trees, where the latex is necessarily poorer, and possibly steady tapping once or twice a year, for several years may have affected temporarily the latex reserves in the trees. In view of our tapping record to date, I do not know whether to expect an increased, diminished, or stationary yield the coming season. We went into this business with our eyes open and knew that neither we nor any one else had much of any practical knowledge of the proposition. Our education has been and still is progressing as rapidly and with as little expense as anybody engaged in the Mexican rubber planting field. I have just received a letter from Tabasco, the only important rubber district in Mexico that I am not personally acquainted with. This letter is from a personal friend who recently took a position on a Tabasco rubber property, and he writes me detailed data as to size of trees of various ages, tapping yield, etc. I therefore repeat now the opinion that our trees grow as rapidly as any elsewhere in Soconusco, and our tapping results compare favorably with those in Soconusco or any other part of Mexico.
>
> The present indications appear to be that this species of rubber tree can not be profitably tapped more than once a year, and this fact taken in connection with the comparatively small yield per tapping, at least during the first 10 years of the tree's life, indicates that our outlook is not what we believed it to be when we were paying for our stock. Our only course now is to hold on and avoid any further investment here until we learn when we may depend upon a material increase in the yield of our trees.

THE OUTLOOK FOR MEXICAN RUBBER.

There does not seem to be much outlook for Mexican rubber so long as present prices prevail. Some favored places can make a fair profit on their actual costs, but when rubber falls to 50 cents or less there is nothing in it for the stockholders. It is reported that within a few years the Far East will have 60,000,000 Para trees producing from 1 to 3 pounds each per annum of rubber superior to the best Mexican, and if this does not break the market planting here will continue. It is stated on good authority that the Mexican planters get more rubber per tapping than the Para people and that the tapping cost is lower per pound of rubber produced, but they can tap only once a year, while the Para planter can tap many times in a year. The Mexican planter loses, because of his greater capital invested, more than he gains in lower tapping cost, and because he must have ten to twenty times as many trees to produce the same amount of rubber as the Para planter, so that the odds are against him, even if he can produce Mexican trees for half or a quarter of what the Para tree costs, which is doubtful.

TABASCO.

THE INDUSTRY IN THE STATE NOT YET DEFINITELY ASSURED.

Consul A. J. Lespinasse, of Frontera, writes as follows relative to the condition of the rubber industry in the State of Tabasco:

The rubber tree is indigenous to this State, where it is found growing wild with no well-defined district wherein the trees grow in large bodies. Although numerous trees can be found in the virgin forests they are scattered over too great an area to be tapped profitably. In order to remedy this difficulty rubber planters have for several years past obtained their trees from nurseries they had been forming, and it is now estimated that fully 8,000,000 trees are under cultivation in this State, and on the border of the adjoining state of Chiapas. Judging from the present satisfactory outlook of the rubber trees, taken as a body, a large proportion will soon be in a condition to tap, providing the rubber plantations safely reach their full period of development without encountering any serious disaster. Under the present experimental stage it would be premature to assert that the cultivation of the rubber tree in Tabasco is an unqualified success. It will require at least two years more to substantiate this claim.

It is expected that the production of rubber after the trees have reached their full development will be 1½ pounds per tree. This, some authorities claim, is too low for trees which are growing under normal conditions, and that 2 pounds would not be excessive, but accepting 1½ pounds as a conservative estimate, 1,000 trees would produce 1,500 pounds, which at 55 cents per pound, would amount to $825, gold, and after deducting 5 cents, gold, for expenses there would remain a net profit of $750, gold, per year. If the crop should be exported to the United States the price would be higher and the profit greater.

Many planters have engaged in diversified cultivation, and have planted rubber trees as a side line, utilizing them as shade for cacao trees, the latter being probably the most important industry in this State. When so cultivated the rubber tree is grown at a nominal cost, as other trees would have been necessary for this purpose, and as the expense of planting either kind would be the same, this expense is therefore directly charged to cost of cultivating the cacao tree. This combination is attractive, as two valuable crops are produced on the same ground and under one management. It must not, however, be inferred from the foregoing that the rubber tree is an inexhaustible source of wealth.

BOLIVIA.

PROPOSED DEVELOPMENT OF THE PRODUCING TERRITORY.

In transmitting copies of the official report of the Delgado Nacional for the Colonial Territory of Bolivia to the President of the Republic concerning the proposed development of the district under consideration, Consul George H. Pickerell, of Para, Brazil, writes as follows:

Attention is invited to the remarks of the Delgado as to the best means for developing this great district, but especially to that part which deals with the financial and transportation problems, as expressed in various parts of the report, and to his remarks in regard to the establishment of colonial banks, and what he is willing to do to secure this end.

The district lies partly between the rivers Beni and Madidi on the one side, and the rivers Acre, Rapirran, and Abuna on the other, having its base resting on the rivers Tambupara and Tacuatimarin, and its apex where the rivers Abuna and Marmore join to make the Madeira. This as yet sparsely settled territory is well supplied with rivers, most of which can be navigated during the entire year by vessels of reasonably deep draft, while the smaller streams can be used by boats of less draft. In order to make this territory more productive, it is considered absolutely necessary that its inhabitants should have better means for securing quick returns on their production, which is rubber. As is well known to the trade, the rubber of this region is of the very best quality, and the only reason why this territory has not been developed to its fullest capacity is the lack of financial and transportation facilities of a reasonable and safe character. The latter phase of the question is now practically settled, for it will be only a comparatively short time before the Madeira and Marmore Railroad will be able to care for all the freight, either out or in, so far as getting around the great falls of the Madeira River is concerned. The next or second portion of the transportation problem, and the one in which the Delgado is directly interested, is the making of roads suitable for autos, etc., to connect the different fazendas and seringaes with the different navigable rivers by which the freight can be carried cheaply to some convenient central point, whence it can be transported to Marmore, the terminus of the Madeira and Marmore Railroad. His present idea is to make the city of Riberalta this central point, owing to its location and healthfulness, and also to the fact that in the intervening distance, 74 kilometers, there are no great difficulties to be encountered should it be decided to establish a narrow-gage railroad.

Even with the transportation problem settled, without proper banking facilities the Delgado feels that the situation will not greatly improve nor become attractive to new immigrants until he can provide them with easy and quick means to realize on their product or secure loans with which to make improvements. To establish this banking and transportation system he has authorized Mr. A. A. Ferreira, whose headquarters will be in New York City, to promote a company or companies to take over this privilege, under certain easy conditions, which will give the said company or companies exclusive control over the territory for the privileges mentioned.

WHY AMERICAN CAPITALISTS SHOULD SECURE THE CONCESSION.

This is the situation in a few words, but the point that it is desired to impress upon the minds of American capitalists is that if this concession is allowed to go to Europe the proportion of the business that will fall to our lot will be very small as compared with that which will follow the concession. It is sincerely to be hoped that this proposition will be given due consideration, for it is not only extremely important as a money-making opportunity for the concessioners, but it is of the greatest importance to our merchants and manufacturers if they are to have a share of the trade of the district. At the present time large amounts of merchandise are taken into this territory over the very difficult falls of the Madeira River, and other amounts drift down through or via the Acre region, but all this is a mere cipher as compared with the quantity which will go forward when the Madeira and Marmore Railway is completed and the present difficulties and losses are obviated. Considered as a banking proposition it is first class, for the reason that every dollar advanced can be secured by an article that is almost an equivalent for gold.

Statistics showing the production of this region are not at present obtainable, but it is known to be large, considering the present number of inhabitants. Given proper facilities for inland transportation, together with the facilities that will be offered by the Madeira and Marmore Railway, and with a certainty of finding at a central point a reasonable chance for getting advances or making a sale of their rubber, practically all the rubber of this district will seek that point. Not only this, but the majority of the orders placed for machinery, supplies, and the thousand and one things necessary for a large population can and will be strongly influenced and directed by the parties making such advances.

[The New York address of the Delgado's representative and copies of the Delgado's report are on file in the Bureau of Manufactures.]

BRAZIL.

ESTIMATED EXPORTS OF RUBBER FROM THE PARA DISTRICT.

The following information concerning the present condition of the rubber output of the Para district and the estimated exports for the year ending June 30, 1909, is furnished by Consul George H. Pickerell, of Para:

The following statement showing the half-yearly exports of rubber from the consular district of Para for the past three calendar years is necessary for the full understanding of the estimated exports for the fiscal year ending June 30, 1909:

Year.	First six months.	Second six months.	Total for the year.
	Kilos.	*Kilos.*	*Kilos.*
1906	20,138,124	14,532,299	34,670,423
1907	23,407,858	14,106,294	37,514,152
1908	22,293,064	15,393,423	37,686,487

From the above statements it would seem that the shipments for the fiscal year to end June 30, 1909, would be as great as, if not greater than, those of the previous year, and had there been no financial depression or other unfavorable condition this would undoubtedly be the case. Reports from the interior are of such a character as to indicate that shipments will from now (January 29) on show a material reduction in quantity as compared with the same period in 1908.

CONDITIONS GOVERNING THE RUBBER OUTPUT.

The supplies sent up river during 1908 were considerably less than were ordered, and only the financially strong houses filled the requisitions as sent in. This means that the rubber gatherer was unable to remain away from his base of supplies the usual length of time, and as a consequence will not be able to furnish his usual quota of rubber. Another factor that enters very largely into the question is the rain. This year it is reported that the rains have made their appearance some six weeks ahead of the usual time. How much effect these two factors will have and what the difference will be no one can accurately state, but one hears of estimates running from 10 to 50 per cent on the receipts to arrive during the last half of the year ending June 30, 1909.

RULING PRICES.

A noteworthy fact is the unusually firm stand taken by the leading producers as regards the sale of their stock. The daily newspaper notices continue to quote them as firm in their determination not to sell unless they receive their price, which is stated to be 7 milreis per kilo (2.2 pounds) here, or $1.28 per pound New York City. I hear of another quite good sized lot that has been arranged for and that will be held subject to a price of 7½ milreis per kilo Para, or $1.38 per pound New York City. It is rather singular that the present Para price for Sertao fine is given at 6.6 milreis per kilo, or $1.24 per pound New York City, while the selling price for the same article for March delivery is stated in New York to be $1.20. The fact that sellers continue to hold out for the higher prices would seem to indicate that they had confidence in something that was going to affect the market, and it is a fact that those merchants with connections in the upper regions have the best means of communication and of knowing the actual condition of affairs. The reported arrivals at Manaos to January 1, 1909, exceeded those of the previous year by 1,301,562 kilos of rubber, and 403,041 kilos of caucho, and this is accounted for by the low prices ruling during the first half of 1908, which had a tendency to restrict shipments. Naturally the higher prices prevailing during the latter part of 1908 have had an effect of the opposite kind, and it is stated by the more pessimistic that there is but little more rubber to come down. This same holds good as regards island rubber, which seems to be arriving in small and ragged lots. As the last half of the fiscal year is the time in which the greatest amount of rubber reaches the market, a statement in the Provincia do Para of January 29, 1909, that the receipts of rubber during that month up to the 29th amounted to 4,906,906 kilos, against 4,169,902 kilos during the same portion of the month of January, 1908, an increase of 737,004 kilos, is interesting.

NATAL.

PRODUCTION OF INDIGENOUS OR NATIVE RUBBER IN ZULULAND.

In reply to an inquiry from Ohio, Consul Edwin S. Cunningham, of Durban, furnishes the following information concerning the production of rubber in Natal:

About three years ago some companies were organized for the purpose of gathering rubber from the native vines in Zululand and the Government gave them grants for that purpose, which required that a certain bounty should be paid both for the use of the land while the leases stipulated that the lessees should plant a certain number of rubber trees per annum on the lands.

The only indigenous or native rubber known is the *Landolphia kirkii*, a vine which is a copious producer of rubber of a very good quality, and which is found throughout Zululand, and possibly as far south as the Tugela River. Samples of rubber from this vine have been gathered and forwarded to London for sale, and have been considered as of excellent quality. An exporter at Maritzburg has shipped the greatest quantity, which amounts, however, only to one or two tons. The largest amount shipped at any one time was some 600 pounds. The prices realized on this rubber have not been stated, but I am informed that it was equal to any Central African sold at the same time. One of the syndicates shipped 94 pounds, which was sold on the London market in September, 1908, when rubber was very low, which realized 58 cents per pound, and the shippers were advised by the brokers that had it been packed differently, and a little more care used in its gathering to prevent foreign matter being mixed with it, it would have brought a price equal to that returned for Central African rubber. These particulars are given so that inquirers can form a correct idea as to the real merit of the Zululand rubber.

PLANTING RUBBER TREES—GOVERNMENT LEASES.

The first importation of rubber trees was from Ceylon, which were planted 16 months ago. From this importation of 25,000 rubber trees there is said to be about 17,800 plants growing and doing remarkably well. Some 11 months later a further importation was made, from which there are something over 10,000 plants in a prosperous condition. These are the only trees which have been planted.

It is said that leases have already been granted giving the right to collect rubber in all those parts of Zululand where native rubber exists. It is probable, however, that the Government is prepared to grant leases in the northern part of Zululand for the planting of rubber trees.

A syndicate which has met many difficulties and needs more capital would be likely to dispose of its leases at a very reasonable price. These leases consist of 378,000 acres near Kozi Lake and 60,000 acres near False Bay, and on both tracts there is an abundant supply of the *Landolphia kirkii;* and it is upon these tracts that the rubber trees above referred to are planted.

The difficulties met with by the companies which have endeavored to collect native rubber are: The unhealthiness of the climate, the difficulty of obtaining animals for transportation of the rubber, in one instance 115 miles to the nearest railway station, and the impossibility of securing suitable European managers.

From the best information obtainable it would seem that those interested in the industry are sanguine as to the possibilities of Zululand, both for the collection of native rubber and the growing of the Para tree. They believe the soil and climate are well adapted for the growth of the tree and they have not given up hope, but on the contrary are endeavoring to obtain more money for the furtherance of their enterprises.

The rubber districts of Inhambane and the Crocodile River, in Portuguese East Africa, are in a more advanced state of cultivation and are certainly more accessible to transportation. The rubber industry in Natal is but in the initial stage and its possibilities are more or less conjectural. [The address of a company with which those interested in rubber in Natal should correspond is on file in the Bureau of Manufactures.]

BRITISH INDIA.

RUBBER OUTPUT OF ASSAM CONSIDERED UNSATISFACTORY.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the rubber industry of Assam and eastern Bengal:

Operations at the government rubber plantation at Chardnar, in Assam, containing 2,754 acres, planted with ficus elastica, were confined during the year ending June 30, 1908, to working over 642 acres, on which 8,265 trees were tapped and 8,346 pounds of rubber obtained, or an average of 13 pounds per acre. Though the operations were more extended than in the preceding year, the results, it is officially reported, were far from satisfactory, and it is thought probable that radical defects in the system of management exist. In the past two years the yield per acre is said to have fallen from 25.6 pounds to 13 pounds, while the cost has risen nearly 2 cents per acre. In marked contrast are the results obtained at the Kulsi plantation in the Kamrup district, eastern Bengal, where on an area of 88 acres 2,087 trees were tapped, producing 4,083 pounds of rubber, or 46 pounds per acre, at a working cost of only 11 cents per acre.

CUTCH DYESTUFF PRODUCTION.

BRITISH INDIA.

PRESENT PRICES IN BURMA ARE LOWEST IN HISTORY OF THE TRADE.

Consul E. A. Wakefield, of Rangoon, after stating that apprehension has been caused by the marked decrease in the quantity and value of cutch exported from Burma in recent years, enters into the following review of this trade:

The net value of cutch exported is materially less than it was ten year ago. In 1905–6 it reached a very low figure, but has since improved. Cutch is a dye obtained from the tree which grows freely in Burma, and is used principally for fish nets and sails, acting as a preservative in addition to its coloring properties. The values of cutch exported for the last few fiscal years are as follows: 1903–4, $620,000; 1904–5, $300,000; 1905–6, $275,000; 1906–7, $505,000; 1907–8, $460,000.

Prices have fallen off very materially in recent years as evidenced by the prices prevailing at some of the Upper Burma centers of the cutch market, where quotations are now $8 to $10 per hundred viss (365 pounds) as compared with $16 and $16.50 a few years ago. There are several reasons for the decline in this trade, chief of which is the introduction of cheaper substitutes.

The introduction of mangrove cutch from Borneo and the substitution of aniline dyes by the manufacturers of cotton fabrics has restricted the market for Burma cutch until prices are now probably the lowest in the history of the cutch trade. Mangrove cutch is made from the bark of mangroves and is cheaper than Burma cutch, but is generally mixed with the latter before being used on sails or fishing nets, while some fishermen will not use it at all because it is much inferior as a preservative.

ADULTERATION ELIMINATED—GOVERNMENT DIRECTION.

Another cause contributing to the decline of the cutch trade was the adulteration which was freely practiced a few years ago, which did much permanent harm, as it induced the dyers to use aniline dyes in place of cutch.

At present there is little or no adulteration, although some of the marketed product contains too great a percentage of moisture to obtain best results. Brokers and dealers are endeavoring to have the quality improved and the proportion of soft cutch reduced to a minimum.

Prior to October 1, 1904, the government revenue on cutch was collected by issuing licenses permitting holders to cut and boil cutch at a given figure for each caldron of a certain capacity. This was applicable to government lands only and was so unsatisfactory in operation that an export duty of $1.30 per hundred viss was imposed and is now in force. Licenses are still required, but are obtained without cost and are issued for the purpose of protecting the remaining cutch trees.

Previous to 1907 cutch plantations aggregating 8,656 acres had been created and maintained by the government at a cost of $47,500 and 6,696 acres of mixed teak and cutch trees at a cost of $32,500. In addition considerable sums were spent in creating and maintaining forest reserves of natural cutch. At the present time the cutch market seems to be slowly improving, but there is no very pronounced demand.

NORTH BORNEO.

VEGETABLE DYESTUFFS DERIVED FROM THE MANGROVE TREES.

Consul Orlando H. Baker makes the following report from Sandakan on the utilization of the mangrove tree in North Borneo:

Cutch is a hard, brown, brittle substance and when broken presents a smooth, shining surface like anthracite coal. It is used for tanning leather and also for dyeing textiles black or brown. Sandakan has a prosperous cutch factory, which produced and exported, in 1907, 830 tons, and, in 1908, 970 tons, a part of which went to the United States. Cutch is manufactured also in Dutch Borneo and at Mempaked, across the bay from Kudat.

Cutch is made by these factories from the bark of the mangrove trees, which grow in great abundance in salt marshes, extending inland in various places in North Borneo as far as 125 miles. Large fleets of small native boats collect and transport the bark to the factories. The trees after being stripped of the bark are, as a rule, cut down, split and chopped for firewood, loaded into small boats, and finally exported to Hongkong and other eastern ports. It makes an excellent fuel for steam launches, having about five-eighths the heating properties of Welsh coal.

The mangrove bark after delivery to the factory is subjected to the treatment found to be most effective in extracting the tannin and reducing it to the solid commercial form. [The manufacturing methods for cutch extracts are reviewed in the "Commercial Products of India" by Sir George Watt, a new volume published under the authority of the British Government by John Murray, of London.—B. of M.]

METHOD OF EXTRACTING CUTCH.

Cutch is by no means a new substance, having been used by the ancients for dyeing a permanent black or brown. It is obtained from many species of the acacia. In India they cut the whole tree into chips, which are boiled until the tannin is extracted; then the exhausted chips are taken out, fresh chips put into the kettle, sometimes with leaves and twigs, and the process repeated until the liquor acquires the consistency of coal tar. It is then poured into molds, where it hardens, after which it is made into balls and wrapped in the leaves ready for market.

Cutch of an inferior quality is made from the Areca palm, also from a plant called "gambier" (*Uncaria gambir*), which grows in Borneo, It is made and sold by the natives. The value of the gambier exported from Borneo in 1907 was $5,662 gold. Cutch is also largely produced in Sarawak and Dutch Borneo and goes to increase the exports of these countries. The vast extent of the mangrove swamps in North Borneo, their easy access, and the excellent quality of the cutch produced promises an increasing trade in this useful and necessary product. As the supply of oak and hemlock bark is constantly growing less in the United States, the demand for cutch will increase.

The mangrove trees are said to exist in some of the Philippine Islands in abundance, but have not as yet been utilized.

COROZO NUTS IN MEXICO.

ABUNDANT SUPPLY IN TABASCO—CULTURE IS NEGLECTED.

From Frontera, Consul A. J. Lespinasse writes that the corozo tree abounds throughout the Mexican State of Tabasco, being most abundant in the virgin forests, as it requires shade and humidity to develop favorably. The consul's description follows:

The corozo commences to bear in the seventh year, producing one crop annually of two or three clusters, the clusters frequently containing over 1,000 nuts, and fructifies from March to April, with total weight of 500 pounds. Every 200 pounds of the unpeeled nuts will produce 20 pounds of kernels. This plant is abundant in certain localities, where the nuts sell for $3 to $5 gold per ton of 2,200 pounds, which will yield 200 or more pounds of oil. When the corozo nut is properly manipulated it will produce 50 per cent of oil, colorless, of agreeable odor and taste. The oil can be employed for medicinal and household purposes; it solidifies at a low temperature, and according to tests made it could be employed to great advantage in the manufacture of fine toilet soaps and pomades.

Although European houses have repeatedly endeavored to obtain information about the quantities of this nut which could be shipped, it does not appear to have stimulated its cultivation, as the tree is allowed to grow and increase in immense quantities in its wild state without receiving the slightest attention.

Under proper cultivation the corozo would undoubtedly produce a greater number of nuts of better quality and greater proportion of oil. It would therefore seem that there is an opportunity to profitably develop this industry. The tree not only produces the oil-yielding nuts, but also contains a quantity of exceedingly tough fiber which resists the rotting effects of water. This could no doubt be manufactured into coarse ropes and cordage, etc.

The corozo is a species of palm which attains a height of 20 feet or more; the clusters of nuts are attached to the base of the plumelike leaves which spring from the crown. A small fragment is forwarded of one of the large clusters of corozo nuts, the oil-producing kernel being inside the bonelike nut. [Samples of corozo nuts from both Mexico and Colombia may be seen at the Bureau of Manufactures.]

WOOD-SAVING PROCESSES.

PRESERVING RAILWAY TIES AND TELEGRAPH POLES IN EUROPE.

The following information concerning the processes of wood saving in Europe is furnished by Consul-General Robert P. Skinner, of Hamburg, in reply to an inquiry from an Ohio company:

Various methods of applying preservatives to railroad ties and telegraph poles have been in practical use in Europe for more than 30 years. Considering the simplicity of the processes and the positive results achieved, it is little less than amazing that no general attention has been paid to the subject in the United States. It would be difficult to find in any advanced European state a single railway, telegraph, or telephone lines the ties and poles of which have not been impregnated with an antiseptic composition. Figures are published relating to 20 German telegraph lines the impregnated poles of which were set at various intervals from 1877 to 1893. Of those set in 1877, 30 and 38 per cent were still sound and in use after 26 years' service, and of those set from 1891 to 1893 there are records of five lines upon which 100 per cent of the poles are still standing. The Bavarian postal service, after 30 years' experience, certifies that the known average life of impregnated poles in Bavaria is 17½ years, and the German imperial administration calculated in 1903 that the known average life of such poles was 16.08 years. In the meantime the work of impregnation is being more perfectly performed, so that future statistics will show much better results.

In France, the Eastern Railway Company announced in 1889 that, in the 24 years preceding, 67 per cent of its untreated oak ties had been replaced, while only 16 per cent of such as had been treated with creosote had been removed. Beech ties properly impregnated, according to the chief engineer of that road, have an average life of 35 years. More recent conclusions reached in the same system were to the effect that 80 per cent of creosoted beech ties were good after 27 years of service, while only 54 per cent of oak ties, treated in exactly the same manner, were good after 24 years of service.

METHODS OF PRESERVING.

The results of impregnation are so conclusive and undisputed that it would be futile to present further details on the subject. In recent years the most usual preservative agents in use have been chloride of zinc, creosote, and bichloride of mercury, applied by imbibition, or by impregnation by injection forced by the pressure of the air. This second method of treatment generally consists in placing the wood in closed metallic recipients from which the air is pumped, and the liquid then introduced under high pressure.

Until comparatively recently, it was very common to treat wood by injection under pressure of chloride of zinc diluted with water. While this antiseptic is efficacious, it loses its qualities and becomes hygroscopic. To overcome these disadvantages creosote was added to the mixture, and under the title of "mixed impregnation" this system has been adopted for the treatment of white-wood ties, which are too cheap to warrant the use of creosote alone. Hard-wood ties, on the other hand, are impregnated with creosote alone, the general effect of which is to close the pores, coagulate the sap, and kill the micro-organisms in the wood.

CREOSOTE AND OTHER MIXTURES.

The use of creosote alone is quite unusual in the treatment of telegraph and telephone poles, because of the odor, tendency to melt and run under the sun, and objections raised by linemen. It is common, therefore, to use bichloride of mercury (the French Government uses sulphate of copper), the efficacy of which has been known since the middle ages, when it was used to combat decay and the action of insects. At the Himmelsbach plant, near Freiburg, Baden, this is used in 66 per cent solution. The wood is plunged into timber or cement recipients and there remains from ten to fifteen days. In this plant, moreover, treated poles are given a special coating of some unknown antiseptic, which extends about 2 feet above and 2 feet below the point where the pole enters the soil. This application protects the part where the variations in humidity commonly attack the pole. In the Himmelsbach establishment there are tanks for the impregnating of 40 ties at a time under pressure, these tanks being 20 meters (65.6 feet) long and 2 meters (6.6 feet) in diameter. Their baths for treating telegraph poles are 98.4 feet in length. [Translations of the specifications under which contractors who supply the Paris, Lyon and Mediterranean Railway with ties and the French Government with telegraph poles now operate, together with a list of recent French publications relative to wood preservation, may be consulted in the Bureau of Manufactures.]

ACHIOTE IN MEXICO.

A COLORING PLANT GROWING WILD IN THE STATE OF TABASCO.

Consul A. J. Lespinasse, of Frontera, writes as follows concerning the plant from which "pasta de achiote," a valuable coloring matter, is produced in Mexico:

The achiote grows wild in the State of Tabasco to such an extent that in certain localities it would appear as if its cultivation had been undertaken on a big scale, as it covers large tracts of land in unbroken areas. The achiote is a bush-like plant, growing 6 to 8 feet high, which produces a large number of pods inclosing, when ripe, quantities of seed about the size of diminutive peas. The outer envelope of the seed is coated with a reddish coloring matter, which is extracted by lixiviation; the sediment is then evaporated and the resulting product is the commercial article known here as pasta de achiote, which sells in this market for from $1 to $1.25, gold, per kilo (2.2 pounds), wholesale.

The achiote paste is exclusively employed here for coloring condiments and sauces, and for culinary purposes. An achiote bush will produce about 4 to 5 pounds of seeds and it is estimated that 200 pounds of this seed will yield 10 pounds of paste.

This article has never been produced in quantities sufficient for export. Although European houses have repeatedly endeavored to obtain it in commercial quantities all their efforts in this direction have been fruitless, as the quantity prepared in this State barely suffices for local consumption. This is inexplicable in view of the immense quantities of the achiote plants growing wild, and when it is taken into consideration that farm hands who only receive 36 cents, gold, per day could easily gather 65 pounds of the seed per day without any great effort, considering the great abundance of this plant and quantity of seed it produces.

Although it is quite probable that this article is known in the United States a sample of achiote paste is forwarded, as it may possibly interest buyers of this article or others, as it would seem that its coloring matter might be utilized in the United States in the arts and for commercial purposes. With the paste some pods containing the ripe seeds are also forwarded. [Samples may be seen in the Bureau of Manufactures.]

FIBERS AND FABRICS.

FIBER INDUSTRY.

BRAZIL.

DEVELOPMENT OF THE PERINI FIBER OR BRAZILIAN LINEN PLANT.

Consul-General George E. Anderson, of Rio de Janiero, writes that the announcement several years ago that a plant had been developed in Brazil which gave promise of seriously affecting the fiber culture of the world awakened unusual interest, and resulted in inquiries concerning the plant from every part of the world. Further details concerning the plant are therefore given by the consul-general:

Information other than that contained in the original report was scanty, for the reason that the cultivation of the plant had just commenced, and practical results could be demonstrated only after at least one full season of actual field demonstration and the sale of the fiber product in the markets of the world. During the past two years the Brazilian company has raised crops and sold the product. It has also secured patents upon and made preparation for the cultivation of the plant in most countries in which it can be raised, including the United States. In the United States the development of the industry was placed in control of a private company, and one reason detailed results of experiments have not been obtainable is due to the fact that the American concern was making experiments with the plant in Texas. While it is announced that the plant has been successfully grown in Texas, no details of such growth or information as to whether or not the plant has proved to be a commercial success have been given out.

AREA PLANTED AND QUALITY OF THE FIBER.

In Brazil the cultivation of the plant has been conducted on a scale large enough to give some reliable figures. The results of the last year's working were obtained from the discoverer of the plant, who states that his company in 1908 had planted an area of 680,000 square yards with the Perini fiber plant. Contracts were also made with planters in the States of Rio de Janeiro, Minas Geraes, and Sao Paulo, about 1,650,000 square yards being thus planted, making a total area of 2,330,000 square yards cultivated for the fiber. Its quality is such as to make the fiber in demand in all the markets of the world, the quotations for fiber of first quality being at the same price as Italian linen. The jute fabrics made from this fiber have the qualities of linen and hemp, with certain advantages in printing and dyeing. The company has made provisions to utilize the fiber for local uses and all plantations are producing seed.

YIELD PER ACRE AND PRICES REALIZED.

It has been found impracticable to take more than two crops a year from one planting, instead of the three to four crops expected and actually secured in experimental work. It is expected that this will be changed with the introduction of more modern methods of cultivation. The rate of production given is for finished fiber, and is at the rate of 3,194 pounds per acre per planting of fiber of all grades. Of this amount about 1,300 pounds is of fine fiber and about 1,900 pounds is of coarser fiber.

The prices at which recent sales have been made are at the rate of 16.4 cents per pound for the first grade, 8.7 cents for the second grade, and 5.5 cents for the third grade, or substantially 10 cents per pound for all the fiber grown. At this rate the earnings per acre amount to about $320 for each planting.

CULTURAL DISADVANTAGES—METHODS OF HANDLING.

The expenses of cultivation are not given, and apparently this is the important item of the enterprise. The chief plantation upon which the crop was grown was furnished by the Government of Brazil as an aid to the development of the enterprise, the Government also giving the company a subsidy. The expense of land for the time being is therefore a negligible quantity in its returns. The cost of preparing land for the crop has been much greater than anticipated and is likely to continue great. Labor here is not expensive so far as actual wages are concerned, but agricultural methods are not up to date and agricultural tools are all but unknown. The cost of planting the crop, cutting the plants, transportation, and similar items has been great.

So far the plant has been macerated after the Italian and French system, the plants being soaked in water, dried, soaked again, and redried before being passed into the desiccators. All this has cost a great deal more than was anticipated or than is necessary. The expense of tankage has been considerable, the plants being handled in an unskilled way, weighted down by stones on boards, instead of by machines or even modern tools. The chief macerating machine employed requires 27 men to operate it and its capacity is limited. A machine of more than twice the output, to be handled by 6 men, is now being introduced from the United States.

AMERICAN MACHINERY—STATUS OF THE INDUSTRY.

The prices for which the fiber has been sold also include heavy freight and similar charges. In short, the business as conducted has been expensive, and some features of it are likely to be expensive indefinitely. The Brazilian company, however, is introducing "automobile" plows—power plows for preparing the fields—from the United States in addition to the American desiccating machinery. The American machinery is much more expensive than the European machinery so far employed, but it is more effective and will doubtless be the means of making notable savings in a number of the chief items of expense in the production of the fiber.

With the possibility of growing more crops per season, the expected savings in the preparation of the ground and the extraction of the fiber, it is probable that increased returns will be easily realized. At present local conditions are such that many items of expense are high, although these same conditions make some special earnings possible. For example, the coarsest portion of the fiber produced is now being made into rope and sold in Brazil. Under the protection of the high Brazilian duties on rope, prices are secured for this product which would be impossible in most countries or under more normal conditions here.

The results of the work so far carried on seem to leave no room for questioning the quality of the fiber produced by this plant or the quantity grown by ordinary Brazilian cultivation. While the amount produced per acre is not nearly so large as was at first predicted, that now reported is the actual accomplishment under unfavorable conditions, and when the ideal conditions anticipated in the first reports on the plant may be had it is evident that more favorable results also will be had.

SALES IN THE UNITED STATES AND EUROPE.

Samples of the fiber shipped to the United States seem to have been well received, but prices realized there are only about one-half those realized in Europe, the fact that only small quantities of the fiber are to be had affecting the prices unfavorably. Several shipments have been made to the United States of waste from the plant, and the result was highly satisfactory, except that the cost of getting the waste from the plantation factory to the consuming factories in the United States was too great for much business. At present there seems to be no prospect of any sale of such material in the United States in quantities, and so long as so much better prices are paid in Europe for the fiber than in the United States no fiber will go to the United States. To what extent and with what profit the plant can be grown in the United States can be established only by extensive experimentation. At all events the plant and its product should be watched.

PIASSAVA FIBER.

CULTIVATION AND GENERAL USE OF THE PLANT.

In answer to many recent inquiries regarding what is known in commerce as piassava fiber, Consul Pierre Paul Demers, of Bahia, furnishes the following information concerning the supply in Brazil:

The Attalea funifera, commonly called piassava, and yielding the well-known fiber used for brooms, brushes, etc., as well as the coquilho nut, used in the manufacture of beads, buttons, cigar and cigarette holders, etc., is found in a wild state in many coastal sections of Bahia, but especially in its southern part, namely, Santa Cruz, Belmonte, and Porto Seguro. It is a species of wild and trunkless palm, with nothing but a clump of tall and heavily stemmed leaves, which grows only in extremely sandy soil that apparently has at one time formed part of the bottom of the sea. The land upon which this palm grows in the south of Bahia looks very poor, and save from some sagebrush, cactus, and other plants characteristic of alkaline soil, is fairly devoid of vegetation. According to information if these bushes are once burnt piassava comes forth of itself. The fiber is a sort of hairy and pliable bark that grows around the stems, from which it is stripped off annually. This mass of bark is first soaked in water for some days, until the pulp and useless tissues have rotted out, and is then dried, cleaned, combed off, cut into specified lengths, and sorted out according to quality, after which it is ready for export and manufacturing purposes.

Piassava is nowhere cultivated in this State, and its only exploitation consists in plucking the wild trees, which, however, are sometimes found in almost plantation-like thickness. I have seen forests of piassava in the Santa Cruz district, between the rivers Joao de Tiba and Santo Antonio, averaging probably 75 trees to the acre. Each tree, or rather bush, is supposed to give from 10 to 20 pounds of fiber per annum, together with a cluster of coquilho nuts, which is found at the base of the palm, containing, in some cases, as many as 100 nuts. These coquilho nuts are more or less the size of a turkey's egg and contain a large kernel producing a very high grade lubricating oil, which is said to be especially adapted to watches and other small and delicate mechanism.

PIASSAVA LANDS, LABOR, AND PREPARATION OF FIBER.

A good part of the piassava exported from this district comes from state lands, and is exploited under governmental contracts, the concessionaries generally paying a fixed price per arroba (32 pounds) of fiber extracted, according to the locality and the corresponding difficulties of transportation. But there exist also large individual estates in this district which abound in piassava palms. One fiber company alone, for example, which is operating on a natural estate of some 450,000 acres, lying on the Atlantic, at some twelve hours sailing north of the port of Bahia, claims the existence of 6,000,000 piassava fiber palm trees on its estate. This tract of land was formerly owned by an American citizen, but has lately been transferred over to a British syndicate.

Such owners generally pay their laborers so much per arroba of fiber, or nuts, delivered at a seaport or railroad station, according to the distance and facility of transportation. In Santa Cruz, for instance, where laborers are scarce and the means of communication bad, the gatherers of piassava are paid at the rate of from 2 to 3 milreis (1 milreis=about 30 cents) per arroba, but the laborer may have to carry his provisions as well as the products of his labor for 15 or 20 miles on his shoulders.

The methods used in gathering and preparing the piassava here are yet very primitive, everything being done by hand, from the stripping of the fiber from the tree to its packing for export. The British syndicate use manufactured combs, as well as large machine-made but hand-operated steel cleavers for cutting the piassava into uniform strips, but the implements generally used are limited to the bare hand-made combs and the machete. Some use combs made of pieces of board with ordinary nails for teeth.

It is impossible to know accurately the amount of piassava produced annually in this district, inasmuch as the official returns only indicate the quantity exported, while a good part of it is consumed in the domestic market.

EXPORTS AND EXPORT DUTY.

The exports of piassava fiber in 1908 were in metric tons (2,204.6 pounds), 1,318, which has been the average for the past several years, whereas in 1902 the exportations amounted to 1,710 tons, in 1899 to 1,967 tons, and in 1897 to 2,007 tons. The exports of coquilho nuts, the product of the piassava tree, in 1908 were 429 tons, against about 560 tons for each of the preceding three years.

An export duty of 21 per cent is levied on piassava, and 8 per cent on the coquilho nuts, on a value arbitrarily fixed by state appraisers twice a month. During the last six months of 1908 these official values have averaged $90 gold per ton on the former and $30 per ton on the latter; in other words, the average export duties paid have been $18.90 per ton on piassava and $2.40 per ton on coquilho nuts. The same articles are sold in the European markets as follows: Piassava, cut to size, ready for manufacture, at from $200 to $325 per ton, according to quality; coquilho nuts, at from $40 to $65 per ton, according to size. Nothing in that line has as yet been exported from this district to the United States.

OPPORTUNITY FOR EXPLOITING PIASSAVA AND OTHER FIBER PLANTS.

Bahia offers splendid opportunities to parties interested in piassava fiber. As already stated, the palm grows wild in many sections of the state, does not require cultivation, and, unless carelessly handled, can give fiber annually for a period of 30 years, the only work demanded being that of gathering and preparing the crops.

Good piassava lands on which matured piassava palm trees are already found in quantities ranging from 10 to 75 trees per acre, whether in small or large tracts, can be purchased from the State, or individuals, at from $1 to $2 per acre, according to location. Such lands generally contain many other species of vegetable fiber of relative commercial importance, which remain unexploited, 56 such species, not including piassava, cotton, and plants belonging to the banana family, being known to exist in this State. [This list of fibers is on file in the Bureau of Manufactures.]

The prices obtained in London or Liverpool for a few of the leading fibers on this list are as follows, per ton: Malvaisco, $73 to $136; macombira, $122 to $244; piteira, $122 to $170; caroata, $87 to $160; caroa, $78 to $175.

The tucum fiber is used here in the manufacture of fishing ropes and nets. It is a very strong fiber, of silky appearance, and is perhaps the best of all. [The names of the principal exporters of piassava and coquilho nuts from Bahia can be seen in the Bureau of Manufactures.]

MEXICO.

AN ABUNDANT NATURAL GROWTH OF ESCOBA ON THE PACIFIC COAST.

Much interest is now manifest in the Mexican State of Colima in the indigenous fiber plant called "escoba" (*Centaurea salmantica*). It is hoped to utilize it more extensively, and Consul Arminius T. Haeberle, of Manzanillo, describes the plant as follows:

The escoba is a species of shrub growing from 18 inches to 4½ feet high. It derives its name—meaning "broom"—from the fact that the natives cut it each year and, after drying it, bind it into small bundles, which are then used for the purpose of sweeping.

In the sections where it abounds crude native ropes are made from it in the following manner: After cutting the brush, the natives place it in a tepid, slow-running stream, where it is allowed to remain for about two days, after which it is removed and the bark stripped off without difficulty upon starting it from the base. It is then beaten and washed, leaving a fine, white, lustrous fiber of good strength, from which the ropes are made.

This shrub grows in great abundance in all the open, cleared land throughout this entire section, and upon being cut at the end of one season is sufficiently matured for cutting again at the end of the next rainy season. It needs no cultivation or planting, as it grows rank and wild.

Because of the strength, durability, and almost unlimited supply, an immense industry could be built up, both for rope making and manufacturing of sacks, such as are used throughout Mexico for carrying freight on the backs of animals. [A sample of escoba fiber may be seen at the Bureau of Manufactures.]

GERMAN EAST AFRICA.

INCREASING VALUE OF THE SISAL-HEMP INDUSTRY.

Consul Arthur Garrels, of Zanzibar, furnishes the following information concerning the cultivation of sisal in German East Africa:

Sisal hemp, according to an article in the East African Standard, has been cultivated in German East Africa since 1893. The increasing value of this industry is evidenced by the exports in 1906, the latest year for which statistics are available, which were valued at $334,500, against $141,500 in 1904.

The industry was begun with the importation of a small number of plants from Florida. Machinery for fiber extraction was imported in 1899, and the first exports were made in 1900.

The number of plants handled in 1904 amounted to 1,300,000, which yielded 624 tons of fiber, an average of 17 ounces of fiber per plant; in 1905 the return had increased to an average of 25 ounces per plant, but dropped to 22 ounces in 1906. It is calculated that 800 plants per acre should yield an annual crop of 900 to 1,200 pounds.

The machine used for the extraction of the fiber is similar to that used for the same purpose in Yucatan, and costs $3,250; has a capacity of 100,000 leaves in ten hours, and requires a motor force of 48 horsepower. In order to keep this machine sufficiently employed, a plantation of at least 600,000 plants is necessary. This represents an area of about 310 acres, allowing distances of 3½ by 8½ feet between the plants.

BRITISH INDIA.

JUTE EXPORTS AND WHITHER EXPORTED.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics covering the exports of jute from India:

The number of established shippers of jute, rejections, and cuttings from Calcutta and Chittagong during the year ending January 31, 1909, was 38, and the total number of bales shipped was 3,679,028, viz: Jute, 3,133,873; rejections, 47,416; cuttings, 497,739.

The quantity of jute exported to the United Kingdom was as follows: London, 326,671; Dundee, 1,029,855; Liverpool, 11,083; other ports in the United Kingdom, 7,728; total to United Kingdom, 1,375,337 bales. The United Kingdom took also 17,833 bales of rejections and 38,862 of cuttings. The exports to the Continent were as follows, in bales: Hamburg, 567,275; Bremen, 118,163; France, 328,123; Fiume and Trieste, 220,015; Barcelona, 28,481; other ports on the Continent, 200,608; total to the Continent, 1,493,258. The total rejections taken by points on the Continent were 8,882 bales and 3,051 bales of cuttings.

The exports to the United States during the year were as follows: Jute, 286,550 bales; rejections, 20,691 bales; cuttings, 454,557 bales, as compared with 216,829, 20,719, and 209,052 bales, respectively, during the preceding year. The exports to the United States during the year ended January 31, 1909, were the largest in the history of the trade.

To all America outside the United States the exports were as follows: Jute, 9,321 bales; rejections, 10 bales; cuttings, 1,269 bales.

FOREIGN SILK CULTURE.

TURKEY.

GOVERNMENT AID—EXPORTERS SEEKING AMERICAN CUSTOMERS.

Vice-Consul-General Oscar S. Heizer, of Constantinople, gives the following account of the development of silk culture in Turkey, with special reference to the interest the Government is taking in the matter:

The silk industry in Turkey reached a low mark between 1878 and 1881, but since that time progress has been slow but steady, until 1908, when the total value of the cocoon crop was over $4,250,000.

A government station is maintained at Broussa for the microscopic examination of imported eggs and the instruction of silk-worm raisers. Eggs produced by the Broussa Institute are distributed to the most reliable local silk-worm raisers. The Government has nursery gardens at Salonica, Broussa, Konia, and Diarbekir for the free distribution of seed and young trees to farmers, especially in cases where diseased trees are destroyed. The production and sale of eggs may be undertaken only by silk-worm raisers who hold diplomas from Broussa Institute, or some other reputable institution, testifying to their knowledge on the subject.

Silk-worm culture competitions are held each year in the different centers of the Empire, and prizes, consisting of microscopes and money, are given for the best kept silk-worm nurseries. There are also competitions for the purely industrial part of the industry for the best cocoons, spun silk, etc. Prizes and diplomas are awarded at these competitions.

THE TITHE, EXPORT DUTY, AND OUTPUT.

The cocoons produced have to be sold in the official auction rooms. In localities where there are no auction rooms the cocoons are taxed on the current price. Silk-worm raisers who wish to work their cocoons must first pay the tithe, after which they are given a "permit to transport," enabling them to remove their cocoons from one locality to another. The peasant is exempt from this tax for 456 pounds of fresh cocoons per acre of ground freshly planted with mulberry trees for a period of three years.

All silk-worm eggs and cocoons exported from Turkey pay a duty of 1 per cent. The export of silk-worm eggs goes almost wholly to Russia and Persia. The average price is 26 cents per pound.

Owing to the decadence of the wine trade the peasants are turning their attention to the more lucrative silk industry, and with the fostering influence and control of the Ottoman public debt administration, Turkey's reputation as a silk-producing country may again be restored at no distant date.

The original silk tithe of 10 per cent has been increased to 13.43 per cent. This tithe produced $484,581 in 1907 and $577,355 in 1908, an increase of $92,774. The total value of the crop for the season of 1907-8 was $4,298,993.

PRESENT OUTLOOK—AMERICANS SHOULD IMPORT SILK DIRECT.

The increase in last year's crop is due both to the abundance of the cocoons and to high prices. The climatic conditions were favorable, there was little disease, and the eggs hatched out were of excellent quality. On the other hand, from March to September, 1907, the price of cocoons at Lyons and Milan was about $1.23 per pound, a figure not attained for many years past. The prospects of this year are not so favorable. There is a decrease in the production of cocoons of about 10 per cent; the weight is a little below the average, but this has not affected the quantity of silk from the cocoons.

Heretofore most of the Turkish silk has been exported to France, whence much of it is afterwards sent to the United States. It would appear to be more advantageous for American manufacturers to purchase directly from Turkey, especially in view of the fact that the standard American silk skein can now be furnished here. Experienced dealers [addresses are on file in the Bureau of Manufactures] in Turkish raw silk are now prepared to furnish to American manufacturers Turkish silk reeled into the "standard American silk skein," as prescribed by the Silk Association of America in its circular dated March, 1902.

SPAIN.

DECADENT INDUSTRY BEING REVIVED BY GOVERNMENT ENCOURAGEMENT.

Consul Charles S. Winans writes that the vicissitudes of silk production in the Valencia region during the past fifty years present a remarkable illustration of the rapid decline of an ancient and most flourishing Spanish industry. The consul thus reviews the present conditions and the efforts to revive the industry:

Silk was formerly by far the most lucrative product raised by the farmer; but from an annual yield that reached in the full tide of prosperity 12,000,000 kilos (26,455,200 pounds) cocoons, and sold readily at $22 an arroba of 28.11 pounds, the total production of the district has fallen to 800,000 kilos (1,763,696 pounds), which, subject to market fluctuations of wide range, has to be sold at prices averaging $8 to $14 an arroba. This enormous decline is attributed in part to the gradual depreciation of silk in the world's markets, but chiefly to the apathy of farmers who failed to avail themselves of the discoveries and methods of selection of Pasteur.

The conditions of this district, characterized by small farmers and large families, are considered admirably adapted to sericulture, which in practice proves to be more successful, economically speaking, when operated on a small scale as a domestic or household industry. The mulberry flourishes here on the banks of the numerous irrigation canals and water-distributing trenches which inclose the diminutive lots into which the soil is subdivided, without interfering with other crops or occupying valuable space.

The gathering of the leaves is usually left to the junior members of the family, while the women folk in the intervals of their household duties attend to the feeding and care of the caterpillars more as an entertaining recreation than a task.

PRESENT SITUATION AND PROSPECTS.

The director of the model farm and experiment station is strongly of opinion that the industry can be revived in this region, and is now offering gratuitously selected silkworm eggs and mulberry plants to encourage farmers to make a fresh start under modern scientific methods. The splendid breed of silkworms that existed here were totally destroyed by the fatal pebrine epidemic, and those imported from Japan speedily fall victims to the same disease, unless submitted to a rigorous yearly selection.

The present situation and prospects of silk growing in this section may be gathered from the following official experiments:

Income:		Pesetas.
2¾ ounces eggs produced 134.23 kilos (295 pounds, cocoons, which realized 124.6 kilos, at 4.6 pesetas (peseta about 17½ cents) per kilo		573.16
9.6 kilos inferior and defective cocoons		12.00
639 kilos nests, at 12 pesetas per 1,000		7.67
Total gross product		592.83
Expenses:	Pesetas.	
2¾ ounces eggs	13.00	
2,147 kilos mulberry leaves, at 7.93 pesetas per 100 kilos	170.25	
50 days' wages of attendant to feed and care for caterpillars	100.00	
12 days' wages for gathering and transportation of leaves	24.00	
11½ days' female labor to clean cocoons, at 1 peseta	11.50	
Heating	8.00	
Paper and sundries	10.00	
Total expenses		336.75
Net profit		256.08

This profit is about $44.80, or 76 per cent on the outlay. The profit for the small farmer would have been still larger, as he would have saved both on the labor account and the mulberry leaves, which he grows himself. It will be noticed, however that the scale of wages paid in these experiments is extraordinarily low, 35 cents for male and 17 cents for female labor, and that the lowest American standard of wages would, if applied to the same experiment, convert the result into a loss of at least $50.

LACE INDUSTRY IN TUSCANY.

SUCCESS OF ITALIAN COTTAGE TEXTILE MANUFACTURING.

Most of the lace made in Tuscany being purchased by American tourists, the following report by Consul Jerome A. Quay, of Florence, on this Italian industry will be of interest:

The lace industry was revived in Tuscany about thirty years ago by some manufacturers from Liguria who had for some time the monopoly of the trade in Florence. These pioneers of the newly revived industry had many serious difficulties to overcome. In the beginning the principal difficulty was the inability to secure women laborers. Straw braiding was the most profitable at that time in Tuscany and enabled the women to occupy all their spare time plaiting straw while attending casually to their household duties. Straw plaiting is like knitting, as it can be accomplished by the plaiter almost automatically while walking about and attending to other matters. Naturally so agreeable an occupation was preferred to lace making.

However, the gradual decline of the straw-plaiting industry, owing to competition in production from other countries, reduced wages so materially that the women were finally induced to take up a more profitable employment.

Meanwhile various noblewomen of Tuscany became deeply interested in the condition of these people, now deprived of their former occupation of straw plaiting, and through personal and financial aid taught many women the reviving trade of lace making. A school was opened up, consisting of some 20 pupils, under the patronage of Contessa Gabriella Spalletti-Rasponi, and having secured the cooperation of Francesco Navone, of Florence, their work soon found a market. Signor Navone greatly appreciated the beautiful models which were presented for his inspection, models which had been secured from old heirlooms by the patroness, and promptly undertook the management of the school. He secured designs of the best patterns in the museums of Europe, and has since had them carefully copied by these clever women.

OLD LACE REVIVAL—NEW SCHOOL.

The old "filet" lace has been particularly successful, and at the time of the last exhibition at Paris some reproductions of some old "Italian filet" were exhibited by this school with such success that the making of "filet" is now a specialty. From Florence this method of lace making has been introduced into Venice and France, and the lace is now manufactured in both places on a large scale. It is particularly desirable for the adornment of table linen, curtains, bed linen, pillows, etc., and the finest qualities in gowns and underclothing.

Another school has also been opened in Tuscany under the patronage of Contessa Spalletti-Rasponi for the manufacture of linen embroideries. This is also under the management of Signor Navone, who has combined the Tuscan lace and embroideries most artistically. Both of these schools have prospered so remarkably within the last ten years that they now employ several hundred working women. The work is given to the woman under contract, is made at home, and when finished is brought back to the school, where it is promptly paid for in accordance with an agreement previously arranged.

COOPERATIVE AID—FOREIGN TRADE.

The women themselves have arranged a cooperative corporation, which has a capital of some 25,000 lire ($4,825), which aims to provide for the relief of the sick members, medical attendance, medicines, and to alleviate the poverty of the less fortunate and needy; also a Provident Bank has been recently opened through the payment of small sums by each working woman, and 10 per cent on the value of the work executed.

Besides these two schools, lace is manufactured in most of the principal towns of Tuscany, the work being promoted and encouraged by the Society of Women's Industries and by many charitable noblewomen. The convents also produce much beautiful lace, and many simple varieties are made by the peasants.

The output of this industry is for the most part sold to foreign visitors, especially Americans, who are considered the most liberal purchasers; also dealers from France, Germany, and the United States, who in former times confined their purchases to Paris, London, and Berlin, now send to Florence important orders. The industry continues to grow steadily.

COTTON GOODS IN CHINA.

COMPARISON OF BRITISH AND AMERICAN EXPORTS FOR THREE YEARS.

The following figures show the exportations to China, including Hongkong, of all classes of British cotton piece goods and yarns for the past three calendar years:

	1906.	1907.	1908.	1906.	1907.	1908.
Piece goods:	*Yards.*	*Yards.*	*Yards.*	*Value.*	*Value.*	*Value.*
Gray or unbleached	245,386,600	181,941,100	234,897,200	$12,983,432	$10,089,335	$12,494,869
Bleached	183,016,300	152,728,400	151,344,700	11,382,548	10,124,252	9,986,033
Printed, flags and shawls	2,339,000	426,600	761,200	125,428	29,515	38,055
Printed, other	46,098,500	41,707,000	15,635,900	2,988,847	2,889,955	993,666
Dyed in piece	170,582,300	176,569,900	[a]93,621,100	17,569,821	20,839,282	[a] 11,609,327
Made wholly or in part from dyed yarn			[a]2,032,500			[a]238,891
Total	647,422,700	553,373,000	498,292,600	45,050,076	43,972,339	35,360,841
	Pounds.	*Pounds.*	*Pounds.*			
Cotton yarn	5,580,600	4,298,600	5,538,300	1,183,074	1,009,214	1,217,564

[a] Not shown separately in 1906 and 1907.

SHIPMENTS FROM UNITED STATES.

The exports of all classes of cotton cloths from the United States to China and Hongkong for the past three calendar years have been as follows:

To—	1906.		1907.		1908.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Yards.		*Yards.*		*Yards.*	
Chinese Empire	271,199,275	$16,704,823	38,443,859	$2,678,528	79,635,264	$4,536,209
Hongkong	568,328	75,021	695,137	96,068	447,954	67,213

STOCKS AND SALES OF COTTON GOODS AT SHANGHAI.

The following table from Cotton, published by the Manchester Cotton Association, gives the stocks of the cotton piece goods and yarns held in Shanghai on January 1, 1909, 1908, and 1907; also the average off take for those years, January to June, inclusive.

Description.	Stock Jan. 1, 1909.	Stock Jan. 1, 1908.	Offtake Jan 1-June 30, 1908.	Stock Jan. 1, 1907.	Offtake Jan. 1-June 30, 1907.	Average offtake first half of last 4 years.
Gray shirtings:	*Pieces.*	*Pieces.*	*Pieces.*	*Pieces.*	*Pieces.*	*Pieces.*
European	1,659,074	1,467,847	2,173,841	2,397,932	2,439,995	2,474,020
American	183,595	23,540	46,445	416,420	71,145	82,830
T cloths:						
32-inch	205,174	406,177	367,653	269,069	465,687	427,567
36-inch	26,726	51,940	20,737	54,794	24,045	30,183
Indian, 32 and 36 inch	8,250	45,667	35,630	122,925	43,415	37,759
White shirtings:						
European	1,275,893	1,455,636	1,403,764	2,082,073	1,462,660	1,508,617
American	174	(?)	(?)	(?)	(?)	484
Drills:						
English and Indian	47,651	86,345	64,606	184,780	72,267	60,016
Dutch	1,080	3,965	2,910	15,181	11,840	6,717
American	471,635	626,575	248,432	1,157,940	340,926	534,115
Jeans:						
English and Indian	188,591	158,032	253,695	266,047	162,580	191,748
Dutch	8,440	2,320	8,990	3,810	3,848	10,862
American	70,380	58,700	52,815	190,070	116,350	93,289
Sheetings:						
English	80,871	178,521	172,941	410,013	158,457	161,486
Indian	(?)	12,260	10,270	70,225	15,840	19,381
American	1,064,265	2,311,795	1,081,032	3,932,630	1,597,598	1,686,618
Printed cottons	381,150	653,131	362,513	452,158	515,898	476,496
Fancy woven cottons	5,310	96,163	11,876	65,149	22,273	21,242
Turkey red shirtings	130,326	364,360	306,254	356,514	282,714	298,026
Cotton yarn:	*Parcels.*	*Parcels.*	*Parcels.*	*Parcels.*	*Parcels.*	*Parcels.*
Indian	72,367	221,436	437,425	438,621	589,004	516,330
English	5,591	2,932	5,283	4,344	8,910	7,330
Japanese	5,112	43,658	175,403	34,315	156,766	175,299
Shanghai	10,593	91,013	169,654	207,520	67,752	98,186

COTTON GROWING IN AFRICA.

LINT AND SEED EXPORTS FROM BRITISH NIGERIA COLONIES.

Consul W. J. Yerby, writing from Sierra Leone, gives the following information in regard to cotton growing in the Niger country of Africa, where no cotton was raised for export seven years ago:

The Government Gazette of Southern Nigeria, on February 10, 1909, published a statement showing that the quantity and value of lint cotton exported from the two British colonies, Northern and Southern Nigeria, during the calendar year 1908 were 5,832 bales, with a total weight of 2,294,356 pounds, valued at $259,382, and cotton seed in bags, with a total weight of 5,591,976 pounds, valued at $29,777. This cotton sold for 12 cents during the first quarter of the year, for 11 cents during the second quarter, and for 8½ and 9½ cents per pound during the third and fourth quarters.

It is claimed, however, that fully 50,000 bales, of an average weight of 400 pounds each, are produced in the Niger country annually, nine-tenths of which is manufactured by the natives into native cloths.

WHEAT SHIPPING SACKS.

MEXICO.

CONTAINERS FOR SUCH SHIPMENTS SHOULD BE STRONG FOR REUSE.

Consul Arminius T. Haeberle, of Manzanillo, calls attention to the fact that recently a great deal of wheat has been shipped to that Mexican port from the States of Washington, Oregon, and from British Columbia, and the desirability of using coffee-sack coverings. He writes:

On several occasions the wheat from the States has arrived in bad condition compared with that from British Columbia, due to the sacks being sunburned and rotted and not standing a second handling. It would be better to use coffee sacks, as these could be sent to Cordova, State of Veracruz, and used for coffee shipments to the United States. As it is, duty is paid on old sacks, which are worthless after reaching their destination.

If good coffee sacks can be obtained for 10 cents, the consignee could still sell them at a profit after paying the duty as on wheat of one-half cent per kilo (2.2 lbs). Coffee sacks can be sold here for 42 cents Mexican or 21 cents American currency, but if for any reason they do not command the same price in the coffee districts on the east coast and the cost in the States exceeds 10 cents, they might still be sold at a good profit.

It is essential, whatever kind of sack may be used, to avoid the loss resulting from bad sacks, which, I am informed, amounts in some cases to 1 per cent, and a continuance of which may prove unfavorable to American exporters. [The names of shippers of wheat from Oregon and Washington to Mexico may be obtained from the Bureau of Manufactures.]

AUSTRALIA.

SUCCESSFUL EXPERIMENT IN PRESERVING BAGS WITH GUM KINO.

Complaint having been made of the rotting of bags in the shipment of American wheat and other cereals, fertilizers, etc., the following from a British publication should prove of value as suggesting a means for their preservation:

The report of the Western Australian department of mines for the year 1907 contains the following remarks by Mr. E. A. Mann, chief inspector of explosives, government analyst, and agricultural chemist: Great loss is annually incurred by the loss of superphosphate owing to the destruction of the bags in which the fertilizer is shipped and stored. The bags become destroyed by the free acid in the manure and repeated rebagging, and the use of double bags to guard against this loss has become a heavy tax upon the farmer. Experiments were made during the year (1907) to see if a method could be devised to avoid this waste, and bags treated in various ways were submitted to a practical test. One bag, which had been treated with a strong solution of red gum kino, gave very satisfactory results. It was filled with a very acid superphosphate (which had completely rotted the double bags in which it had been imported), and was stored for 6 months surrounded and covered by other bags containing the same manure. At the end of 6 months the bags by which it was surrounded had rotted and given way in all directions, but the bag treated with kino came out as strong and intact as when it was put into the store. This test was so satisfactory that many of those interested in the superphosphate trade are applying the method of treatment on a large scale, and there is every reason to hope that this simple and inexpensive method of preserving the bags will be effective.

LALANG AS PAPER MATERIAL.

LABORATORY TESTS OF MALAYSIAN GRASS ARE SUCCESSFUL.

Consul-General Thornwell Haynes writes that some months ago a sample of the lalang grass of Malaysia was sent from Singapore to the Aynsome Technical Laboratories, London, for examination as to its commercial value as a source of pulp for paper making. Mr. Haynes now tells of the results:

The sample was a pale buff color, lustrous in appearance, and of fair strength, of the order *Gramineæ*. The chemical examination furnished the following results, the percentages other than that of moisture being expressed on the dry material:

Moisture		13.21
Ash		4.14
Loss on L. hydrolysis		10.76
Loss on B. hydrolysis		46.65
Loss on mercerisation		31.62
Loss on acid purification		.95
Gain on nitration		21.19
Cellulose		47.41
Length of ultimate fiber	m.m.	1.20

The ultimate fiber obtained from this grass is very similar in most respects to esparto, the yield of bleached fiber being about the same. This, it is said, is a favorable indication, inasmuch as esparto is one of the best known and most useful sources of supply to the trade. The fibers as seen under the microscope are short, smooth, cylindrical, fairly uniform in diameter, gradually tapering to rounded extremities, and sometimes occurring together in little bundles. The pulp contains a number of small cuticular cells, which do not, however, show in the finished paper. The fibers are stained a pale yellow with iodine solution, which fades more rapidly than is usual with colored pulps.

INDICATIONS OF GOOD CELLULOSE.

The results obtained from the chemical analysis show that the grass is capable of yielding a good quality of cellulose, suitable in every way for the manufacture of paper. Although the grass is very susceptible to the action of dilute alkalis, the final product is exceptionally pure and readily resolved. From observations noted during this preliminary examination the following scheme was adopted for the production of the pulp on a larger scale:

The available grass in its natural condition weighing 400 grams (14.1 ounces) was in a clean state, and required little treatment beyond cutting into small pieces for boiling. It is usually necessary on a large scale to pass the material through some type of cleaner to remove dirt and extraneous matter. The grass was then thoroughly wetted and soaked until it became soft and pliable. It was placed in a boiler of the spherical type, covered with water, and digested with caustic soda corresponding to 15 per cent of the grass treated for a period of ten hours under pressure, which was kept constant at four atmospheres, an even temperature of about 135 degrees C. being maintained.

The pulp obtained after washing was of good uniform quality and color. The yield agreed very closely and was only slightly higher than the preliminary chemical analysis showed, which indicates complete reaction in the digester. The pulp was carefully beaten for about an hour and at the same time bleached, chloride of lime being used for the purpose, 10 parts of dry powder being used per 100 parts of pulp.

The stuff was taken from the beater and well washed, and subsequently a small quantity of loading was gradually added and the whole again beaten for half an hour. At this stage of the operation the rosin size was introduced and the decomposition of the soda resinate completed with the calculated quantity of alum. The amount of size used corresponded to 4 per cent on the dry pulp present, the total time occupied in preparation of the pulp for running on the machine being two hours.

No great difficulty was experienced in running the pulp. It retained, however, a considerable amount of water after passing the suction boxes, and in consequence it was found necessary to keep the press roll down hard. On a large machine this precaution would not be necessary, as more suction boxes are available and complete control is assured.

The paper was passed over nine cylinders at a pressure of about 8 pounds to the square inch, then through one calender, and finally reeled off. In a similar manner a second sample was prepared, using a mixture of half pulp and half cotton beaten together. The paper obtained from this blend could prove very useful as a high-class wrapping paper, it being stronger and possessing a comparatively high resistance to folding. The paper made from all-grass pulp would with judicious treatment for improvement of color be very suitable for printing purposes. The addition of cotton to the pure lalang fiber has the effect of improving its resistance to crumbling, and also in a lesser degree its tensile strength.

KOREAN GRASS CLOTH.

LARGE IMPORTATIONS ARE MADE FROM CHINA—SELLING PRICES.

Consul-General Thomas Sammons, writing from Seoul, says that there is an established market for grass cloth in Korea, men, women, and children wearing large quantities of this fabric. He describes the extent of this trade:

During 1908 a total of $816,004 worth of grass cloth was imported into Korea from China, an increase of $340,931 over 1907. China is the only country that ships grass cloth in any large quantity to Korea, supplying 75 per cent of the consumption, the balance being manufactured in Korea. It is estimated, also, that 90 per cent of the cotton goods, 75 per cent of the linen, and 50 per cent of the silk used in Korea is of foreign manufacture, the bulk of the linen coming from China.

Primitive hand machines are used by the Koreans in the manufacture of grass cloth, a yard of which a foot wide and of the average middle grade sells for 11½ cents. This quality is not as wide as the Chinese cloth, but costs more than the imported goods; hence the large sales in Korea of the Chinese production. The Chinese middle grade grass cloth is 14 inches wide and retails for approximately 11 cents per yard.

Korean raw, or unwashed, grass cloth retails for about 11 cents per yard. It is estimated that the washing process, changing the fabric from yellowish-brown to white, costs about one-half cent per yard. The very coarse Chinese grass cloth, unwashed, sells in Korea for 10½ cents per yard and is 16 inches wide.

It is estimated that in marketing grass cloth the wholesalers add approximately 1 cent per yard. .The cloth is usually handled twice, and thus about 2 cents per yard is added, making the manufacturer's price 9 to 9½ cents per yard for the middle grades and 8½ cents for the unwashed grades.

The Korean grass used in the manufacture of grass cloth is grown very thickly and is usually cut the second or third year after planting the roots. The grass reaches a height of 4 to 5 feet and with a proper start and under favorable conditions yields, it is roughly estimated, about 3,000 pounds to an area corresponding to an acre. Samples of the grass cloth referred to are forwarded [and may be seen at the Bureau of Manufactures].

INDIAN JUTE MILL PROFITS.

RESULTS OF LAST YEAR'S OPERATIONS OF CALCUTTA FACTORIES.

The following figures by Consul-General William H. Michael are interesting as showing the profit and loss during the calendar year 1908 of Indian jute mills located near Calcutta:

Mill.	Profit (+) or loss (−).	Mill.	Profit (+) or loss (−).
Anglo Indian	+$243,540	Gourepore	+$156,684
Bangalore	+ 374,905	Hooghly	− 12,957
Kinnison	+ 251,089	Howrah	+ 226,737
Reliance	+ 59,883	Kamarhatty	+ 64,315
Budge Budge	+ 248,584	Kanknarrah	+ 167,931
National	+ 91,735	Khardah	+ 413,470
Alliance	+ 201,637	Lawrence	+ 86,966
Delta	+ 79,024	Naihati	+ 84,198
Fort Gloster	+ 147,264	Sheebpore	− 39,343
Arathoon	+ 112,104	Soorah	+ 42,591
Belvedere	+ 50,527	Standard	+ 139,394
Central	+ 60,820	Union	+ 79,539
Dalhousie	+ 131,208	Clive	+ 177,512

One other mill reports a loss of $31,775 during the first half of the year, but fails to report the loss or profit during the second half. Thus it will be seen that nearly all the jute mills on the Hooghly made satisfactory profits during the year. The Khardah leads in profits, making $413,470. In all cases the profits are calculated before deducting debentures and interest.

METALS AND MINERALS.

MINING INDUSTRY.

GREECE.

MINERALS EXPORTED IN CRUDE STATE OWING TO LACK OF FUEL.

Consul-General George Horton, of Athens, writes that Greece is peculiarly a mineral-producing country, possessing many mines, especially of iron, lead, zinc, silver, etc. He continues:

The mines of Greece are found chiefly on the eastern shores of the peninsula and in the islands of the Ægean, as these parts of the country are the oldest geologically, and of volcanic origin. Notwithstanding this mineral wealth, the industrial development of the country has been slow, on account of the lack of fuel, which is nowhere found in sufficient quantity. For this reason most of the minerals are exported in a crude state after the simplest possible preparation, and the exploiting only of those minerals has been found to be profitable which are valuable without being bulky and are easily mined and transported.

Recently also, an account of the rise in value of the paper drachma, or the "fall of the exchange," as it is called here, mines have been shut down which formerly were worked with profit. Labor and other expenses must be met now with paper that is worth nearly its face value in gold. The following mines are in operation: Hematite iron-ore mines in Laurium, Skyros, Kythnos, Siphnos, Seriphos, Antiparos, Mykonos, Atalante; manganese iron-ore mines in Laurium, Kimolos, and Syra; chrome iron-ore mines in Larymne; lead-ore mines in Laurium, Siphnos, Thera; zinc mines in Laurium, Siphnos, Antiparos; manganese mine in Milos; chromium mines in Pharsala and Lamia.

MINERAL EXPORTS—IRON ORES AND MINES.

A table recently prepared by an expert of the Greek Government gives the amount and value of the minerals exported from Greece for 1907 as follows:

Classification.	Tons.	Value.	Classification.	Tons.	Value.
Iron ore	664,071	$744,529	Manganese	9,788	$58,170
Manganese iron	94,685	147,705	Chromium	12,430	92,582
Lead ore	5,538	23,480	Coal	4,525	17,244
Argentiferous lead	9,235	623,824	Lead	1,987	7,593
Zinc ore	25,470	46,360			

But for the lack of coal Greece would have been an important steel and iron producing country. Studies are being made as to the possibility of using lignite for smelting purposes, of which considerable quantities are found.

The iron ores are hematite, generally of high grade, and manganese in veins piercing limestone or volcanic layers. Often, as at

Laurium, they appear as coverings for beds of lead, zinc, and copper. One of the best mines in Greece now being worked is found in the island of Seriphos. This mine produced and sold during the years from 1901 to 1907, 1,000,000 tons of iron ore, valued at $2,129,630, and yielding a clear profit of $1,298,148. Activity in iron mining fell off sharply during 1908 on account of the crisis in America, on the Continent, and in Great Britain.

LEAD AND ZINC—OBSTACLE TO DEEP MINING.

The lead ores are found for the most part between volcanic strata in the form of lead sulphide. Mines of this kind exist in the island of Mykonos. At Laurium the iron is found between layers of schist or marble, together with ores of zinc and iron carbide. These mines were worked from ancient times (500 B. C.), and the smelting was done upon the spot. The residue of the lead, cast aside by the ancients, is worked over to-day by the Greek Mining Company of Laurium.

The ancients neglected also the zinc ore, the utility of which was unknown to them, and this is found as thrown out by them and carefully worked. Deep mining is limited at Laurium on account of the water, which rises everywhere to a slight distance below the level of the sea. The French company has already ordered large pumps, with which it is hoped to proceed with their labors below the present water level. Zinc is also mined at Laurium. The zinc oxide is exported in its natural state.

There are also here kilns for the roasting of the lead oxide; one of these, American, very complete, is owned by the French company. Other mineral products in Greece which are taken out at a profit are: Emery, magnesite, gypsum, kaolin, and sulphur. Private companies take out and sell marble, Theraic earth (Pouzzolane de Santorine), and millstones.

Many other mineral substances exist in Greece of possible value which have either not been touched at all or worked on a small scale. Among these may be mentioned: Talc, chalk, ocher, baryta, lithographic plates, etc.

LARGE OUTPUT OF EMERY, MAGNESITE, ETC.

The quality of emery depends upon the percentage of corundum it contains and the quantity of iron in mixture. Pure corundum is not found. It is used for the polishing of hard substances, and is therefore of great industrial value.

The yearly world's production of emery is about 35,000 tons, of which Greece produces 9,000, from the island of Naxos. The right of mining the emery is enjoyed by the inhabitants of certain districts the Government transporting the product to Syra, where it is sold for about $20 per ton. The Naxos emery contains over 60 per cent of corundum.

Magnesite is of great industrial value on account of its resistance to heat, which renders it suitable for the lining of furnaces and for fire bricks. Owing to its great synthetic power, it is also used for making cement. Magnesite is found principally in the island of Euboea, in veins 15 to 25 meters in thickness, and several kilometers in length. It is mined by the Company of Municipal and Public

Works, the Anglo-Greek Company, and the Magnesite Company. It is exported (1) in a crude state at $3.70 per ton; (2) calcined, at $13 per ton; (3) dead burned, at $14 per ton; (4) in brick, at about $14.50. There is great demand for the Greek magnesite at present, and the possible output has been ordered in advance for some time to come.

In the island of Milos are found gypsum and sulphur, and its millstones are famous in the entire Orient.

The production of Greek quarries and mines for the year 1907 is as follows:

Classification.	Quantity.	Value.
Marbles........cubic meters..	4,208	$141,124
Magnesite........tons..	55,816	320,052
Emery........do...	10,652	218,570
Millstones........pieces..	5,559	3,009
Pouzzolane de Santorini........tons..	39,637	....

It is the opinion of experts that the mining industry is capable of great development in Greece, and that many mines that are at present neglected, and others that have not yet been discovered, will be worked profitably in the future.

AUSTRALIA.

RESULTS IN TASMANIA LAST YEAR DISCOURAGING FOR OPERATORS.

In reporting, from Hobart, that during the year 1908 the mining industry of Tasmania suffered from hard times, Consul Henry D. Baker sums up the results:

The total value of the mineral products of Tasmania for the year ended December 31 was only $8,017,893, as against $11,081,793 the previous year. The depression has been due to the low prices for metals and also to the scarcity of water for sluicing, owing to the prolonged drought. Throughout the year not a single gold mine has paid a dividend. All the leading mining companies show a diminution in their earnings with the exception of several companies engaged in the mining of coal, which is the only mineral product whose value shows any increase over that of 1907.

In the silver-lead mining district in western Tasmania there was considerable embarrassment during the year on account of the closing of the smelter at Zeehan, owing to lack of profit in successfully treating complex ores, with low prices ruling for the products extracted. Owing to the distress occasioned by the closing of the smelter, the Government loaned the company money with which it could resume operations. Several new companies have recently been organized for the purpose of treating the complex ores of this district. One has a patented process for the treatment of complex ores containing zinc, the object being the production of zinc oxide and the recovery of the silver, lead, and gold values of the ore as a lead bullion and of copper as a precipitate. Another company has just obtained a concession from the Parliament of Tasmania for a twelve-months' reserve of lands near the headwaters of the Derwent River, containing valuable water-power rights, where it is proposed, if found entirely feasible after surveys and other expert investigation, to produce electric power for cheap operation of works where complex ores can be treated.

QUANTITY AND VALUE OF MINERALS PRODUCED.

The following return shows the quantity of mineral products for Tasmania for the year ending December 31, 1908, as compared with the previous year:

Mineral.		1908.		1907.	
		Quantity.	Value.	Quantity.	Value.
Gold[a]	ounces	57,085.124	$1,180,039	65,354.252	$1,350,974
Silver-lead ore	tons	61,046.86	1,566,085	89,762.50	2,786,363
Blister copper[b]	do	8,833	2,934,806	8,247	4,052,291
Copper and copper ore	do	1,185.15	32,060	788.25	179,929
Tin ore	do	4,520.80	2,051,619	4,342.75	2,441,431
Iron ore	do	3,600	7,786	3,000	5,596
Coal	do	61,067.75	252,605	58,891	243,592
Wolfram	do	4.58	1,645	40.75	21,466
Bismuth	do	3.75	2,248	.175	131
Total			8,017,893		11,081,793

[a] Fine gold, including gold contained in blister copper and silver-lead bullion.
[b] Value of gold contents deducted.

On December 31, 1908, there were 6,034 miners (white) employed in Tasmania, as compared with 7,031 on the same date a year ago, and 114 Chinese miners, as compared with 131 for the same date in 1907.

OUTPUT OF GOLD.

STEADY DECREASE SHOWN IN THE PRODUCTION.

Consul-General John P. Bray, of Sydney, advises that the gold production of Australasia for the years 1906, 1907, and 1908 was as follows:

State.	1906.	1907.	1908.
	Fine ounces.	*Fine ounces.*	*Fine ounces.*
West Australia	1,794,547	1,697,553	1,648,505
Victoria	772,290	695,576	676,005
Queensland	544,696	466,476	461,359
New South Wales	253,987	247,363	224,792
Tasmania	60,023	65,354	60,712
South Australia	14,077	11,871	9,162
Total Commonwealth	3,439,560	3,184,193	3,080,535
New Zealand	534,617	477,312	471,790
Total Australasia	3,974,177	3,661,505	3,552,325

JAPAN.

REDUCED OUTPUT LAST YEAR.

The following extract from the Japan Advertiser forwarded by Vice-Consul-General E. G. Babbitt, of Yokohama, reviews the mining results in Japan last year:

According to official returns the number of applications for trial mining, prospecting, etc., received by the authorities during last year was 4,500, showing a diminution compared with 1907. The decrease of applications was comparatively small as to coal and petroleum, while it was more marked in respect to silver and copper, owing no doubt to the extraordinary fall in the price of these minerals.

The total output of minerals in Japan during last year amounted to $51,614,000 gold in value, which showed a falling off of $1,799,000 compared with 1907. The production of the principal minerals in 1908 with a comparison with 1907 is shown below in quantities (1 momme=58.24 grains; 1 kin=132 pounds; 1 kwamme=8.27 pounds; 1 liquid koku=47.65 gallons):

Mineral.	Amount.	Per cent (+) increase or (−) decrease.	Mineral.	Amount.	Per cent (+) increase or (−) decrease.
Gold ....momme..	795,579	+ 6.2	Coal ....kwamme..	14,468,664	+ 5.3
Silver ....do....	28,356,057	− 8.8	Quicksilver ....kin..	1,156	+52.0
Copper................kin..	67,806,639	+11.9	Petroleum..........koku..	1,568,389	+ 3.6
Lead.................do....	4,899,822	− 2.7	Sulphur ....kin..	53,815,077	+ 2.9
Iron ....kwamme..	41,606	−29.4			

The total number of mining disasters recorded during last year was 14,749, resulting in 506 people killed and 14,673 injured. The number of disasters showed an increase of 10 per cent as compared with 1907, while that of killed and injured decreased by 12 per cent. Miners in employment at the end of last year number 214,439.

CYPRUS.

AMERICANS SEEKING TRADE CONNECTIONS WITH LOCAL EXPORTERS.

Consul-General G. Bie Ravndal, of Beirut, sends the following notes on mineral products of the island of Cyprus:

The mining of gypsum is one of the infant, but promising, industries of the island of Cyprus. Gypsum for years has been exported in a raw state from Cyprus to Syria. Of late a considerable trade in manufactured gypsum—i. e., plaster of Paris—has grown up, and the total exports of gypsum for the year ending March 31, 1908, amounted to 24,209 tons, valued at about $70,000. A large share of the Cyprus gypsum is sold to Egypt.

American importers of terra umbra (raw umber) have been in the habit of getting it through Italy or England, but of late efforts have been made by them to establish connections in Cyprus. The exports of terra umbra are on the increase, having grown from 2,255 tons for the year ending March 31, 1907, to 6,519 tons during the year following, the estimated value being $6,250 and $20,252, respectively. During the year ending March 31, 1908, the exportation of terra umbra from Cyprus, by countries, was as follows: Great Britain, 3,964 tons; Italy, 1,872 tons; United States, 343 tons; Germany, 260 tons; Austria, 64 tons; Russia, 11 tons; France, 5 tons. [Inquiries relative to trade connections are referred by the consul-general to addresses which are on file in the Bureau of Manufactures.]

NOVA SCOTIA.

REPORT OF RICH DEPOSITS OF GYPSUM DISCOVERED NEAR SYDNEY.

Consul John E. Kehl furnishes the following information concerning the new deposits of gypsum which are said to exist near Sydney, Nova Scotia:

A local railway company has acquired considerable land at East Bay, about 15 miles from Sydney, which is said to contain inexhaustible deposits of gypsum. The whole extent of the company's present holdings and a large section roundabout appear to abound with the material. The deposit is being thoroughly exploited by the present owners, with the assistance of government experts. A calyz drill was used to ascertain the depth of the plaster; the drill was operated at the base of the face of a hill, and driven down about 80 feet; no break was found in the deposit. The analysis, straight through, shows nearly 99 per cent of purity. Some 20 tests have been made, and it is claimed that in every instance the pure gypsum has been found at an average of 10 to 12 feet beneath the surface. Tidewater with excellent shipping accommodations is less than 3 miles distant, and a bill is now before the Nova Scotia legislature for the construction of a line of railway from East Bay to Sydney.

American builders of machinery for use in gypsum mining, or for refining gypsum, might do well to correspond with the names sent herewith. [On file in the Bureau of Manufactures.]

FOREIGN COAL TRADE.

COLOMBIA.

EXTENSIVE DEPOSITS SUPERFICIALLY AND CRUDELY WORKED.

Consul-General Jay White, of Bogota, furnishes the following information concerning the coal fields of Colombia, and their situation in regard to the Panama Canal:

The Colombian coal fields are exceedingly well placed to take advantage of the markets which will be made available by the opening of the Panama Canal. There are at present three routes by which the coal can be sent to the canal: (1) From the Rio Hacha and Santa Marta fields to Colon, across the Caribbean Sea, 500 miles; (2) Darien to Colon, 300 miles; (3) Buenaventura, on the Pacific, to Panama, 400 miles. When the mouth of the Magdalena is opened for steamers and the navigation of the river improved coal may be exported by this additional route.

In the absence of any assured statistics, it is not possible to give even an approximate computation of the Colombian coal deposits, but the country has in its extensive coal fields a valuable asset, almost untouched, and very little explored, the mines that have been opened being worked in a very superficial way; the unsettled conditions which have prevailed in the republic having halted progress in this connection. No geological survey has ever been made of the Colombian coal fields.

NUMBER AND LOCATION OF COAL MEASURES.

The known coal measures of Colombia are given as follows: (1) Bogota coal fields; (2) Tequendama, south of Bogota; (3) Zipacon, west of Bogota; (4) west side of the Magdalena; (5) Subachoque, near where the Pradero Iron Works are established; (6) Cajica; (7) government mines at Yapaquira, where there are large beds of rocksalt; (8) Nemocan mines, private and government; (9) Sequile and Guatavita; (10) Sueboa; (11) Pacho Iron Works and coal deposits; (12) outcrops at Ubate, Fuquene, and Valez; (13) Tunja, Sogamoso, Santa Rosa de Viterbo, and Gambita; (14) department of Santander; (15) Cucuta district; (16) Magdalena district; (17)

Santa Marta district; (18) Llanos; (19) Popayan; (20) Cali, to be operated by the Pacific Railway; (21) between Cali and Cartago, and in the Cauea Valley, not of Cartago; (22) Choco and Darien.

The means of communication in Colombia are inadequate. There are 12 short railways, none of them over 70 miles in length, and all were planned without regard to coal export, although it happens that several of them traverse coal fields. The navigable rivers are only suitable for vessels of light draft. The lower Magdalena is navigable for about 600 miles, and the upper river, at times, for about 100 miles. Nevertheless, means of communication could, no doubt, be provided when a coal mine of known richness and an assured market need to be connected.

There is no demand at present for coal-mining machinery in Colombia, but upon the completion of the railways now in course of construction there should be a limited market for all classes of machinery for mining and handling the product. [Communications covering all the known information relative to the Colombian coal fields, together with maps of the 12 routes and coal distribution, photographs, etc., transmitted by Consul-General White are on file in the Bureau of Manufactures.]

URUGUAY.

AN OPPORTUNITY TO SELL COAL IN SOUTH AMERICA.

Consul F. W. Goding, of Montevideo, makes the following report on the importation of coal into Uruguay, and suggests that American dealers secure a share of the trade:

During the year 1905, the latest figures obtainable, 136,454 tons of coal, valued at $1,411,251, were purchased in Uruguay. Of this quantity the United States supplied about 15,000 tons, the balance being English and Welsh coal. No American firm since 1905 has attempted to secure this trade, although the prices are good, leaving a liberal margin for profit after deducting the cost and freight. The cities importing this coal are, in the order of their importance, Montevideo, Rio Negro, Paysandu, Colonia, Salto, and Soriano. Montevideo took over 80 per cent of the entire amount.

Inducements are being offered by local companies desiring coal, in the way of contracts and a guaranteed return freight for the steamers. Some enterprising American coal dealers should investigate this question, especially as the gentleman best acquainted with the details, and who is in a position to furnish all desired information, is now in Washington.

The duty on coal, including extras, is about 61 cents per ton.

GERMANY.

INCREASED OUTPUT OF HARD COAL, LIGNITE, AND BRIQUETS.

Consul Southard P. Warner, of Leipzig, submits the following statistics relative to Germany's production, imports, and exports of coal:

According to official statistics just published by the German Government, the production in long tons (2,240 pounds) of coal, coke, and briquets for 1907 and 1908, also the imports and exports of coal and coke for the same time, were as follows:

Articles.	Production.		Imports.		Exports.	
	1907.	1908.	1907.	1908.	1907.	1908.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Hard coal	143,222,886	148,621,201	13,721,549	11,661,503	20,061,400	21,062,362
Lignite	62,319,802	66,450,144	8,963,108	8,561,966	22,065	27,877
Coke	21,938,036	21,174,956	584,221	575,924	3,193,073	3,579,278
Briquets:						
Of hard coal	3,524,017	3,996,449				
Of lignite	12,890,461	14,227,218				

The foregoing figures show an increase in the production of hard coal of about 5,400,000 tons; of lignite about 4,100,000 tons; and of briquets made from lignite about 1,400,000 tons. The production of hard coal briquets in 1908 shows an increase of only about 400,000 tons over the production in 1907. A decrease of 764,000 tons is noticed in the output of coke.

CHINA.

FUSHUN MINES OPERATED BY THE SOUTH MANCHURIAN RAILWAY.

The following information concerning the output, quality, and sales of Fushun coal, as given in a pamphlet issued by the South Manchurian Railway, is furnished by Vice-Consul-General Frederick D. Cloud, of Mukden:

> The coal disposed of during the six months ended September 30, 1908, was as follows: Used by the railway, 152,112 tons; sold to others, 30,099 tons; consigned, 29,197 tons; total, 211,308 tons, against 76,949 tons for the same period in 1907.
>
> The strata is quite thick and of uniform quality. The color is lustrous black and very solid. It is a smoke coal, rich in volatile matter, with a heating power of 7,500 calories. Combustion is nearly complete, clinkers are very scarce, and the almost total absence of sulphur brings with it a corresponding saving in damage to boilers. As steam-boiler fuel it can compete with the best Japanese coal, and it is especially suited to railway and marine engines. Because of its large percentage of volatile matter, it is a superior coal for gas making, and it is also suitable for industrial purposes.

From reports given in the pamphlet, covering marine and industrial trials of Fushun coal, the following are taken as fair examples of all:

MARINE TRIAL OF FUSHUN COAL.

> Trial of Fushun coal made on the Fuji San Maru, of the Mitsu Bussan Kaisha, on a voyage from Newchwang to Moji: Weather fair, head breeze, calm sea; draft at the bow, 17 feet 2 inches, at the stern, 17 feet 5 inches; speed of the engine, 10.9 knots, of the ship, 9.5 knots; pressure, 175 pounds; revolutions per minute, 60; horsepower, 985; consumption per twenty-four hours, 24 tons; consumption per horsepower per hour, 2.2 pounds; space per ton, 42.4 cubic feet; kind of coal, mixed, lump, and dust, old.
>
> The coal is of a good quality, not too hard, black in color, and with a strong luster. When taken into the fire the coal burns up immediately with a slight crackling noise. Its heating power is very great; there are few ashes, which do not stick on the grate. It is a kind of coal which an inexperienced fireman could easily manage. As the coal is of a good quality and burns easily, it can be kept up with fewer hands than can ordinary coal. As it does not stick, the fire can be moved from one boiler to another very easily, thus facilitating a change of boilers, with little loss of pressure. As it burns so readily, what little loss of pressure there is can be speedily regained, and we believe Fushun is very superior in this respect. As the smoke is very thin (combustion on the grates being almost complete), this coal is most suitable for steamships. It has very little sulphur, so that there is not much deterioration resulting from its use.

BRICKKILN TRIAL—HAMBURG ANALYSIS.

Results of a trial made at a brick factory under the direct control of the company were as follows: Fuel, mixed lump and dust; amount consumed, 3 tons per 10,000 pieces; kilns, 24 compartments, continuous flat kiln. The continuous flat kiln is built on an improvement of the Hoffman system, 12 compartments comprising 1 set, the fire passing around the compartments and baking the bricks. In the trial 3,400 bricks were baked in a little over twenty hours.

We find that on account of the longer flame of the Fushun coal and the greater diffusion of its heat it is very easy to send the heat from one kiln to another. The kilns are still new, and although 3 tons of coal were used to every 10,000 bricks it is expected that the quantity of coal can be decreased in the future.

The following is the result of an analysis of Fushun coal made at the laboratory of Doctor Gilbert, under the seal of the Hamburg Museum:

Ingredients.	Percentage.	Percentage when water and ash have been extracted.	Ingredients.	Percentage.	Percentage when water and ash have been extracted.
Carbolic acid	72.58	78.75	Oxygen	12.22	13.25
Hydrogen	5.37	5.83	Water	6.48	----------
Sulphur	.69	.75	Ashes	1.35	----------
Nitrogen	1.31	1.42			

The ashes consist of silicic acid, oxidized iron, and clay, with traces of lime, magnesia, and manganese.

PETROLEUM INDUSTRY.

JAPAN.

GREAT DEVELOPMENT OF THE PETROLEUM INDUSTRY CLAIMED.

Vice-Consul-General E. G. Babbitt, of Yokohama, furnishes the following information concerning the development of the petroleum industry of Japan:

The Japan Financial and Economic Monthly gives the following statistics concerning the petroleum industry of Japan, compared with that of the United States and Russia, as related to one of the staff of that journal by Mr. Watanake Tokichi, the managing director of the largest petroleum company in Japan:

The world's output of petroleum last year amounted to 234,270,000 barrels, of which the United States produced 165,870,000 barrels, occupying the foremost position, while Russia produced 40,800,000 barrels. Japan occupies only the seventh rank, her output being 470,000 barrels, having increased from 250,000 in 1907. But the domestic product is far from being sufficient to meet the home demand, and therefore it is a matter of prime necessity at present to import a large quantity.

According to official returns, the imports last year amounted to 1,010,000 cans of illuminating oil, valued at $7,131,360, and 9,670,000 cans of crude oil at $298,800. In fact petroleum forms an important item in the list of imported articles, hence the importance of developing the petroleum industry so as to meet the home demand, and if possible, to make exports to foreign countries. The Hoden Oil Company was established in February, 1893, in Nagaoka, the province of Echigo, with a capital of $7,470. In those days the petroleum industry was regarded in Japan as a sort of speculation, and many business men considered it undignified to engage in such an enterprise but at present the company has a capital of $11,650,000 yen ($5,801,700), making 40 per cent dividend, while the shares are worth three times as much.

During the 16 years in which the company has been in business its capital has increased by 780 times, the reason being its absorption of 127 petty com-

panies and guilds, the total capital of which was $11,175,000. The advantage of combination is manifest in any business, but it is particularly the case with the petroleum industry. We did not experience any difficulty in bringing about the amalgamation of small companies, as the desire for amalgamation was so keen that no written contract was made, a verbal promise being quite sufficient. When the company was founded, the number of oil wells was only 2, but at present, we count 1,359. The average rate of dividend for 16 years (31 terms) is 36.4 per cent.

Since the oil industry in Echigo was commenced 23 years have elapsed, during which 30 per cent of the domestic want was supplied, while the output of last year met fully 40 per cent, and during the first half of the year 50 per cent of the home demand was supplied.

Statistics of United States and Russia show that the former has bored to the depth of 3,000 feet and the latter to that of 3,500 feet, while the deepest well in Japan is only 2,040 feet. The outlook for new oil fields is regarded as very hopeful. When all these circumstances are taken into consideration, the output for next year will supply 70 per cent of the home demand, and for the year after next the demand for refined oil, amounting to 10,000,000 cases, will be met by the home output and the import of oil will be practically stopped. The next step in the forward movement will be the export of oil to Manchuria and Korea.

The success of the company is largely attributable to its peculiar organization, which is worked on the cooperative plan. All the members of the staff are treated on the family basis. Various considerations, such as bonus, pensions, and allowances, are tendered to the employees of the company, while the directors bear unlimited responsibilities toward the company. Both employers and employees identify their interests with the working of the company, and such harmonious relations form a great factor in pushing its business.

JAPANESE OIL IMPORTS.

That the oil fields of Japan are far from supplying the wants of Japan is evident from the following statement showing the imports of petroleum during the years 1906 and 1907:

Whence imported.	1906.		1907.	
	Gallons.	Value.	Gallons.	Value.
United States	44,510,557	$4,758,989	44,489,816	$4,734,626
Dutch India	12,084,279	1,137,529	24,094,321	2,250,877
Asiatic Russia	1,184,203	94,371	1,581,477	148,245
All other countries	1,649,969	147,904	12	2
Total	59,429,008	6,138,793	70,165,626	7,133,750

CHILE.

BORING FOR OIL—IMPORTS OF PETROLEUM FOR FUEL.

Consul Alfred A. Winslow, of Valparaiso, furnishes the following information concerning the borings for oil in one of the Chilean provinces, and the outlook for American petroleum to be used for fuel:

The La Compañia Petrolos del Pacifico, with headquarters at 165 Calle Bandera, Santiago, Chile, has been boring for oil in the Province of Carelmapu, about 500 miles south of Valparaiso, with fair results. The work has been in charge of D. H. MacMillen, an American engineer. A depth of 1,050 feet has been reached without finding any body of petroleum, although indications point strongly toward favorable results, for at several points layers of clay and sand were found impregnated with petroleum. It is understood that the work will be pushed as soon as suitable drilling machinery can be installed. Natural gas has been found in this vicinity in several places with sufficient force to run a cook stove and jets for lighting purposes, and coal has also been found in that part of Chile.

Petroleum is now being imported to a limited extent into Chile from California, and used as fuel by the Taltal Railway, about 500 miles north of Valparaiso. Others have under consideration the use of petroleum for fuel, and it seems there should be a good opening since coal is very high and large quantities are imported.

ROUMANIA.

OIL PRODUCTION AND EXPORTS LAST YEAR.

The production of petroleum in Roumania in 1908, according to figures furnished by Consul-General Norman Hutchinson, of Bucharest, amounted to 1,147,727 tons, an increase as compared with 1907 of 18,630 tons. The exports of petroleum and its derivations in 1908 were as follows, by countries and tons: France, 118,603; United Kingdom, 105,664; Egypt, 79,943; Turkey, 31,401; Germany, 31,174; Italy, 23,103; Belgium, 19,040; India, 18,901; Netherlands, 16,950; Austria-Hungary, 7,027; Algeria, 3,491; Norway, 3,105; all other countries, 2,302; total exports, 460,704 tons.

RESCUE STATIONS IN COAL FIELDS.

UNITED KINGDOM.

BRITISH COLLIERY ESTABLISHES A PRACTICE TEST BUILDING.

Vice-Consul Albert S. Phillips, of Cardiff, renders the following account of a new structure erected in Great Britain for the practice of rescue work in coal mines:

For a long time past the South Wales and Monmouthshire Coalowners' Association have been considering the desirability of opening experimental rescue stations, at which the officials and others might be able to secure the necessary opportunity of practicing in rescue work under conditions as nearly as possible approaching what occurs in a coal mine after an explosion, and also to become expert in the use of various life-saving apparatus invented for use in gas. A committee was formed some time ago and the question of erecting one or more such stations was discussed and plans prepared, but owing to certain difficulties the Coalowners' Association did not proceed with the work themselves. At this stage the Powell Duffryn and other colliery companies determined to erect one on their own account, and to obtain an instructor, so as to make the necessary arrangements for their officials to get a thorough course of training in rescue work. The building is now completed, and was opened on January 23.

ARRANGEMENT OF THE BUILDING.

The building is composed of two main parts. From the road the main entrance leads into a long passage, on the right hand of which are laid out rooms for the storing, cleaning, repairing of the various apparatus used in the work, and in the farthest end is a heating apparatus for the whole building, as well as a fan and a motor house for the purpose of ventilating the experimental gallery in the adjoining section of the building. On the left-hand side of the same section of the building are laid out the office, waiting room, dressing rooms, lavatory, bathrooms, etc., for the use of the men after conducting their experiments in the gallery. This part of the building is completely separated from the experimental gallery, so that no noxious fumes can pass from that gallery into this part of the building.

A covered way leads thence into the gallery, which is 67 feet long by 44 feet wide. Around the inside of the building is an 8-foot wide gallery surrounding three sides, while the whole of the interior is used for observing the men working in the gallery, windows being arranged around the side of the gallery looking into the interior hall for its whole length. It also has numerous doors through which anyone in the least degree affected can be immediately brought out. The fumes are prepared in a stove connected with the gallery, which is also connected at the other end with a fan, so that in any emergency the fumes can be drawn off, and any person in the gallery taken out immediately.

The gallery itself is fitted up to resemble the headings of a colliery after an explosion, and its falls are so arranged that the explorers can crawl over and under them when wearing the apparatus. A stretcher is also provided with a dummy man close by, so that the men may practice bringing a person injured or unconscious out of a pit. Means are provided inside for setting up a door to divert or improve the ventilation, to put up temporary pit props, etc., in fact, to do everything that may become necessary in the case of a real disaster in a colliery.

SCOTLAND.

INSTALLATION OF EXPERIMENTAL LIFE-SAVING STATION FOR MINERS.

Consul Maxwell Blake, of Dunfermline, makes the following report concerning the installation of an experimental mine rescue station for the proper instruction of Scotch coal miners:

The Fife and Clackmannan Coal Owners' Association, acting upon the recommendation of a special committee, has decided to go forward with the installation of a rescue station in the mining village of Cowdenbeath for the practical training of miners in the use of mining life-saving apparatus. It is proposed to erect a drill hall, around three sides of which will run a gallery, through which smoke and noxious gases will be automatically circulated for experimental purposes. This gallery will be constructed with a glass side, in order that the men who are being trained will be visible to those who are watching the experiments. Emergency exits will be provided for reaching fresh air, so that there will be no danger to the experimenters. One part of the gallery will be built without any obstructions, so that the men can walk about and become accustomed to the conditions of the atmosphere. This will lead to a second portion, constructed to resemble, as nearly as possible, the conditions of a mine after an explosion.

INSTRUCTION AND APPARATUS.

Sets of printed instructions will be circulated among the participating experimentalists in order that their efforts may be intelligently directed, and both the apparatus and the men will be thoroughly tested for practical rescue work.

On the opposite side of the hall the apparatus will be stored, and an engine installed for driving the illuminating dynamo and for circulating the poisonous exhausts from the furnace through the experimental gallery. The station under construction will be somewhat similar to one recently established at Howe Bridge, Atherton. At least 20 sets of apparatus will be provided with ample stocks of fresh caustic potash and oxygen for the regular replenishment of the apparatus.

This rescue gallery will be erected in proximity to the proposed Fife mining school, the construction of which is also progressing. The object of the latter institution is to offer to miners facilities for a more scientific understanding of their work. The combined cost of the mining school and the rescue station is estimated at about $110,000.

FRANCE.

SCIENCE DIRECTED AGAINST DANGEROUS MINE CONDITIONS.

Consul J. B. Milner, of Calais, forwards the translation of an article in La Nature, a French scientific journal, giving an account of the experiments that are being made in France for the purpose of reducing to the minimum the dangers of coal mining. Following are extracts from the article:

The series of recent mine accidents has a cause against which we are powerless; that is, the ever-increasing depth of the mines which increases the quantity of fire-damp pressure and the danger of explosion. But with industrial progress, human ingenuity has always been able to fight against the growing dangers to which man consciously exposes himself.

It has been proved that coal dust, which lies along the walls of the galleries or floats in the air of coal mines, is capable of being ignited by explosives, and that the flame thus produced spreads from place to place, carrying with it fire and asphyxiation. The danger of this dust has been increased by the efforts of engineers against fire damp. To prevent the latter from accumulating in the galleries of the mine and forming a mixture liable to explode, a strong ventilation is created; but in doing this the dust is raised, its proportion in the air is increased, and consequently its dangerous properties are developed.

THE STATION AND THE EXPERIMENTS.

In accord with the ministry of public works the mining committee of France has installed at Lievin an extensive plant in which all questions concerning the security in mines will be methodically and scientifically studied. This plant is placed under the high patronage of the fire-damp commission, and the plant is under the management of Mr. Taffunel, an engineer of the mining corps. This plant is the largest and best equipped of its kind, and it is the only one provided so as to study the rôle played by coal dust in mine explosions.

In the experiments carried on it is sought to secure the exact conditions under which explosions have taken place. For this purpose fire damp is pumped from a real mining pit and retained in gas holders until it is needed, and coal dust is artifically produced. By special ventilating apparatus the air of the mine may be charged with any required amount of coal dust.

To cause an explosion a firing mortar is placed inside of the concrete end of the experimental gallery. This end is closed by a movable door. The plant possesses two of these firing mortars, which consist of a cannon tube with a cylindrical bore in the shape of a mine hole. One of these two mortars can stand an internal pressure of 15,000 atmospheres. The explosive to be experimented with is placed in the interior of the mortar with or without wadding and is fired by electricity. The experimenters station themselves in a battlemented observation chamber, from which they can, without danger to themselves, observe terrifying explosions.

PRACTICAL RESULTS OBTAINED—SCHIST DUST NOT EXPLOSIVE.

Since the completion of the plant, last July, it has been proven that safety explosives are almost inoffensive, even in an atmosphere filled with coal dust and fire damp. On the other hand, gummy dynamite is extremely dangerous in an atmosphere containing but 450 grams of dust to the cubic meter, the explosion of 160 grams of dynamite being sufficient to cause a terrible dust explosion. The effect is the same on a mixture of 10 per cent of fire damp and 90 per cent of air. Mr. Taffanel was able to study the spreading speed of explosion waves, which cover several thousand meters per second in an atmosphere filled with fire damp and 80 meters per second in cases of dust explosions. This proves that such explosions travel much faster than they were formerly supposed to travel. The experimenter has also been able to see that a dust explosion spreads indefinitely. Each explosion raises an enormous cloud of dust, which in turn also explodes. In this manner by successive waves a dust explosion can cause a succession of explosions throughout a whole mine. The existence of fire damp does not lengthen the explosion flame, but accelerates its transmission. The proportion of dust in the air plays a capital rôle in mine explosions. With 112 grams per cubic meter, 50 times out of 100 an explosion will take place. The size of the particles of coal dust also plays an important rôle.

Dust of schist, which is incombustible, will prevent a dust explosion if it be contained in sufficient quantity in the atmosphere, at least 40 per cent. On an average the dust of mines contains 30 per cent of schist dust. It would be easy to increase this proportion artificially. The proportion of volatile matters contained in the coal is also of great importance, explosions being likely at 22 per cent, unlikely at 13 per cent.

Observations will be made under most diverse conditions in order to establish scientifically the laws which govern explosions in mine galleries, so that it will be possible to reduce the dangers as much as possible.

AUSTRALIAN ZINC CONCENTRATES.

HEAVY IMPORTS AT SWANSEA—ESTABLISHING NEW FURNACES.

Consul Jesse H. Johnson calls attention to the activity in the zinc trade at the Welsh port of Swansea:

The distinction of being the metallurgical center of the world is still maintained by the port of Swansea. There is a greater quantity of ores and alloys imported here than at any other port in the world, the values of imports and exports here during the course of twelve months amounting to over $40,000,000. From time to time consignments of zinc ashes arrive through New York houses, but frequently such shipments are not made direct to consumers, but through speculative houses in Swansea and other ports. It is practically safe business, if the goods are right, to negotiate direct with the local works, most of which have been established for many years and whose credit is undoubted.

American metallurgical men will be interested to note that quite recently the Arino, a vessel of 9,000 tons dead weight, arrived here with a consignment of 2,500 tons of zinc concentrates from the port of Port Pirrie, Australia. The shipment was made by the Broken Hills mines to large and well connected importers and smelters here. The remainder of the ship's cargo was made up of wool. American exporters of ores and all kinds of metallic substances should keep a keen eye on Swansea, because for many years it has done a huge business in the smelting line and will in all probability increase in the near future.

It is learned that one of the subsidiary syndicates of the Broken Hills Company, whose mines are very large, contemplate the erection of furnaces near Swansea for the treatment of ore which is now handled in Germany. The erection of such a works would add to the importance of this manufacturing center. There are plenty of excellent sites here in close proximity to the huge dock now in course of construction, and there is a very good chance of increasing the business done between Swansea and the United States, more especially as local houses and merchants hold American shippers in such good repute.

LEATHER GOODS.

SHOE TRADE.

BELGIUM.

CONCERN OVER FRENCH TARIFF INCREASE—TRADE COMPETITION.

Consul H. Abert Johnson, of Liege, submits the following comments on the shoe trade of Belgium, and the competition it is encountering:

A Belgian journal devoted to the shoe and leather trade says that this industry is considerably alarmed over the proposed new French tariff on shoes and leather. The president of the Belgian Syndicate of Shoe Manufacturers asserts that this will not only close the door in France to the importations of shoes from Belgium, but it will also seriously affect the importation into France of English shoes. It says that as a result the English manufacturers will turn their attention to extending their markets in Belgium, which will be inundated with the British products, while the only Belgian shoes that can be imported into England are limited quantities of the higher grades. The president of the syndicate, who is an important manufacturer, states that subsequently to the exposition in London in 1908, he had succeeded in exporting his products to England only on the condition of not attaching his own label to any part of the shoe sold, so that the article could be presented to the public as one of British manufacture.

If the Belgian shoe industry is to hold its own against foreign competition, this authority declares, the manufacturers must bend all their energies toward improving the quality of their products by introducing up-to-date methods and machinery; or else they must follow the example of other industries by setting up branch factories in France. As a large part of the manufacture of shoes in Belgium is carried on by hand, this would be a small task compared to moving heavy machinery.

OPPORTUNITY FOR AMERICAN ENTERPRISE.

From personal observation of conditions it would appear that American shoe exporters are ignoring most favorable opportunities for largely increasing their sales in Europe. Much more could be done toward establishing a remunerative trade in localities such as Liege by opening up retail stores under genuine American management. The selection of a native shoe dealer as a representative does not usually give satisfactory results, as the American shoe is thus brought into direct competition by the dealer himself with the cheaper made or inferior Belgian article on which he realizes a larger profit, and he is consequently inclined to acquiesce in the marked tendency of the

Belgian public to purchase the lowest priced article. There is not in this entire district a shoe store of any importance that does not advertise so-called American shoes, or shoes made in the American style, yet it would be impossible in this city to purchase a genuine American shoe.

It appears that a fairly prosperous business is carried on here by an English house, which has its own store situated on a prominent business street, and handles an English shoe at $3 to $5. The best grades of American manufacture are decidedly superior, and it seems unfortunate that the public here can not have an opportunity of observing and judging for themselves. In the journal to which reference is herein made there are a number of advertisements of what are called "American shoes," some of which give names of alleged American manufacturers.

JAPAN.

USE OF HOME VERSUS FOREIGN PRODUCTS AND MANUFACTURES.

In reply to an inquiry of a Boston shoe manufacturer concerning the recent increase of the shoe and leather industry of Japan, Vice-Consul-General E. G. Babbitt, of Yokohama, furnishes the following information:

The total value of leather manufactures in Japan in 1906, the latest year for which statistics are obtainable, was as follows: Ox, cow, and calf, $3,823,110; horse, $1,454,460; all other, $142,660; total, $5,420,230. This leather was manufactured in 1,182 factories, employing 5,669 workers, viz, males, 4,374; females, 1,295.

As to the percentage of domestic sole leather tanned, as compared with the percentage of hides imported and tanned in Japan, the following statement is the nearest reply which can be made:

The number of animals slaughtered in Japan in 1906 was as follows: Cattle, 167,458; horses, 69,269; hogs, 131,858; sheep and goats, 7,539. Most of the hide and skin products of this slaughtering, except pigskins, was tanned in Japan. The imports of hides and skins, to be tanned in Japan, in 1907, were as follows: Bull, ox, cow, and buffalo, $1,139,424; deerskins, $91,681; all other, $17,629; total, $1,248,734.

SHOE INDUSTRY AND TRADE.

The shoe industry has increased during the last twenty years, and each coming year will show an added production, but it is impossible to give the percentages of that increase. Only a very small proportion of the Japanese population, now approaching 50,000,000, wear foreign style shoes of leather, and the number of factories providing these is small. Most of the shoes made for the foreign residents and the upper class Japanese are made to order in small shops, employing from 10 to 20 men and boys. The shoes for the army and navy are made by contract in factories in Tokyo. Aside from the requirements of the army and navy, the shoe industry is on a small scale.

Owing to the duty of 40 per cent on shoes, there is no great importation, particularly as shoes can be obtained in Yokohama, made to order on American lasts with American leather by American machinery (hand), at prices for which ready-made shoes can be bought in the United States. The imports in 1907 were as follows (boots, shoes, sandals, and clogs):

Description.	Total.	From the United States.
Boots, rubber	$9,408	$9,403
Overshoes, rubber	42,377	42,285
Shoes	11,842	8,858
All other	8,056	15
Total	71,683	60,561

One of the Yokohama dealers recently imported a quantity of American shoes for ladies and children which were neat in appearance, well fitting, and cheap, but all had the same fault, being tight across the instep. It would seem as though the manufacturer had tried to dispose of shoes in Japan which he could not sell in the United States. This is about the surest way to lose a foreign market.

DEVELOPMENT OF THE INDUSTRY.

The following extract from a speech made by a leading official before the Japanese department of commerce and agriculture in 1907 contains much information relative to the development of the Japanese shoe and leather industry:

> During his visit to Europe in 1896 for the investigation of military affairs the late Count Mutsu appreciated the necessity of reviving the leather industry in Japan, for the reformation of the army system on European models, as soldiers required a large supply of boots and other equipments. In 1898 the count engaged two experts from Germany and set up a shoemaking and leather factory at Wakayama. Since that time the industry began gradually to develop in Japan. As a result of the increase of the army, the progress of general manufacturing industry, and the growth among the public of a taste for leather goods, the demand for leather has increased year by year, until the production is inadequate to supply the demand.

BRITISH SOUTH AFRICA.

SHOE STORES SHOULD BE ESTABLISHED IN THE LEADING CITIES.

Replying to a Boston request for a list of leather merchants, tanners, and curriers in Cape Town, Consul-General Julius G. Lay also furnishes the following information concerning the American shoe trade in South Africa:

American shoes are not holding their own in this market, due, it is stated, principally to the fact that local dealers do not stock half sizes nor enough of variety. There are stores here that claim to sell a complete line of American shoes, but I have been unable to find anything suitable therein.

In former years the United States enjoyed a much larger percentage of the shoe trade in South Africa than at present, but English shoe firms have copied American lasts, and the people here can not, from outward appearances, see the difference between the American and English shoe. Another disadvantage here is the high prices at which American shoes retail in this country. The price of a pair of shoes that can be purchased in the United States for $5 costs $10.50 here. I am convinced that the sales of American shoes can be increased if some large American manufacturer would establish American shoe stores at Johannesburg, Durban, Port Elizabeth, and Cape Town, where real American shoes could be purchased.

The grades of leather that come to this country from Australia are cheaper than it can be made locally, in spite of the duty. The high-class leathers for the best harness made in this country come from England. [A corrected list of the names of leather merchants, tanners, curriers, shoe and leather dealers and importers, and shoe manufacturers in Cape Town is on file in the Bureau of Manufactures.]

LARGE IMPORTS OF BRITISH SHOES.

SMALL SHARE OF TRADE SUPPLIED BY AMERICAN MANUFACTURERS.

In connection with the foregoing report of Consul-General Lay the following statement, showing the value of the exports of boots and shoes from the United Kingdom and the United States to British South Africa during the calendar years 1906, 1907, and 1908, will enable American manufacturers to appreciate the extent of the trade and their relatively small share thereof:

Exports from—	1906.	1907.	1908.
United Kingdom	$4,408,700	$3,902,400	$3,[illegible],408
United States	126,603	103,585	1[illegible],728

The following statement shows the value per pair of British and American boots and shoes exported to British South Africa during the calendar years 1905, 1906, and 1907, British statistics for 1908 not giving the quantities:

Description.	Price per pair.		
	1905.	1906.	1907.
British	$1.04	$1.04	$1.08
American	2.17	2.32	2.52

Although no definite conclusions can be drawn from the foregoing figures, it is evident that British boots and shoes, on account of their cheapness, meet a large public demand in South Africa, while the American products are imported into the colonies to meet the special demand of a special class. It would therefore appear to be necessary for American manufacturers to investigate the market in a systematic manner, and find out the classes who wear British shoes seemingly because of their cheapness, and then cater to those classes, while holding on to their finer trade—exploiting both at the same time.—[B. of M.]

TRIPOLI IN BARBARY.

NEW MARKET COULD BE CREATED BY CERTAIN METHODS.

Responding to a Missouri inquiry, Consul William Coffin, of Tripoli in Barbary, gives the following account of prospective footwear markets:

The large majority of the inhabitants of this district are Arabs, whose foot coverings are native-made sandals. There is a shoe-wearing population of perhaps 5,000 Europeans and Jews, among whom a limited demand for American shoes could be worked up. At present these people have their shoes made to order by local shoemakers, who turn out an excellent pair, so far as workmanship and material is concerned, for a maximum retail price of 15 francs ($2.89). Therefore, it would be a hard matter to meet the competition in price. On the other hand, the smart styles and the convenience of ready-to-wear shoes in different sizes would create a certain amount of business for the American shoe. The difficulty of introducing them lies in the fact that there is no retail shoe store here and it is doubtful if any merchant of Tripoli would consider importing for his own account a sufficient stock of American shoes to give them a fair trial. If an American manufacturer were willing to ship goods on consignment he would make a market for himself, but that is a step toward foreign trade which Americans almost invariably refuse to take.

In the absence of any importers in that line, it is suggested that manufacturers get into communication with some of the commission agents of Tripoli, through whom local merchants do a considerable amount of their purchasing. A few names from the list of commercial agents are forwarded, together with one or two merchants, who would be most likely to consider a shoe proposition. [The names may be secured from the Bureau of Manufactures.] In corresponding with any of these, manufacturers might make up and suggest to them an order which a dry goods house in an American town of 5,000 putting in shoes as a side line might place. This would be valuable as suggesting the proportions of sizes to order. Specific terms of payment should be named; also the freight rates between St. Louis and New York, and the approximate weight and size of the cases, should be given as a guide to the ocean freight rates.

With reference to terms, there is no possibility of making sales if full payment of cash in advance is required. The commercial ratings of houses here can be obtained by an inquiry through an American bank, made to the Banque Imperiale Ottomane of Tripoli. There is no risk in shipping goods to houses of good commercial repute, cash against documents.

CANADA.

HAMILTON DISTRICT AS A MARKET FOR AMERICAN SHOES.

In answer to an inquiry from a Chicago manufacturer, Consul James M. Shepard, of Hamilton, furnishes the following information concerning that district as a market for American shoes:

This is an excellent market for men's and women's American fine shoes and slippers, but exact figures of consumption can not be obtained, as the customs receipts are not compiled or retained here but are sent to Ottawa daily for compilation. Twenty-seven American corporations have manufacturing plants in this city, and the assessors estimate 3,000 American residents here, a large portion of whom prefer American shoes, as do the better-dressed class of Canadians.

In the opinion of dealers the market has fallen off and will further decrease on account of the increase of the tariff to 30 per cent ad valorem, the improvement of Canadian manufactures in workmanship, style, and finish, and the differences in time, discounts, and guarantees. American manufacturers sell for cash or short time, Canadians at four to six months, with easy extensions. Canadian shoes are promptly replaced, when defective, at the expense of the manufacturer.

MARKET FOR BETTER GRADE OF AMERICAN SHOES.

However, until the Canadian makes equal the American makes in fine goods, there will be a steady and, in my opinion, a constantly increasing demand for American shoes from the better class of buyers in Ontario, and the field will repay thorough working. A single order for $1,500 worth of one line of fine shoes for women's wear was taken by a Massachusetts salesman here recently.

Nothing can be done by catalogues, price lists, or correspondence, but Chicago salesmen who cover eastern Michigan, Windsor, and Sarnia can make Chatham, London, Woodstock, Ingersoll, Brantford, Hamilton, and Toronto profitably with shoes of fine style and finish; but the lower grades can not as well compete with the Canadian goods and the 30 per cent tariff.

There are no license fees exacted, and no obstacles to be overcome excepting the tariff of 30 per cent ad valorem and its "dumping clause," which levies heavy penalties on goods purchased in the United States at more than 7½ per cent below fair market value there. Manufacturers deciding to enter this market should instruct their representatives to call upon the American consuls or consular agents in each city visited, who will be very glad to furnish local information and, if desirable, to personally introduce them to dealers.

LEATHERS USED IN ARGENTINA.

EUROPEAN COUNTRIES UNDERSELL AMERICAN MANUFACTURERS.

In reply to a Milwaukee leather company, Consul-General Alban G. Snyder, of Buenos Aires, sends the following report on leathers used in the Argentine Republic:

Large quantities of chrome tanned calf and veal skins in black and colors, and also of black glazed and colored kid are used in Argentina. Most of these goods come from France, but a fair amount also from Germany. The difference in the prices of black and glazed kid has a great deal to do with the market, the European article being from 30 to 40 per cent cheaper than the American, the former being a little over 19 cents gold per foot, while the American is from 25 to 27 cents per foot.

The difference is about 10 per cent in favor of European goods in color, the American being 4 to 6 cents higher, but there is very little demand for smooth calf or veals in black, the demand being for boarded blacks. The demand is principally for smooth colors. No new tanneries have been started here in the last three years and there is no discrimination against American goods in any way whatever.

INDUSTRIES.

PRODUCTS AND CONDITIONS.

AUSTRIA.

A YEAR OF TRADE DEPRESSION IN BOHEMIAN GLOVE INDUSTRY.

After stating that Prague is the center of the Bohemia glove industry, which is one of the leading industries in the country, Consul Joseph I. Brittain reviews last year's operations:

During the years 1906 and 1907 the rapid rise in the price of lambskins made it difficult for the manufacturers to hold their export trade or to conduct it at a profit. The Prague gloves are made of lambskin instead of kid as in France.

During the year 1908 the price of skins was materially reduced, but the business thus far has not regained its former proportions, although the present outlook is a little more encouraging to the manufacturers. Many of the manufacturers depend almost entirely upon their export trade to keep their factories in operation.

Up to the close of October, 1908, the sale of gloves in 1908 indicated a decrease of $609,000 as compared with a similar period in 1907. The trade with England was most satisfactory, amounting for the ten months to about 500,000 pairs of various sorts, an increase of 5 per cent over the previous year. Exports to the United States were not at all satisfactory. In 1907 these amounted to $307,144, and in 1908 to $165,498. The manufacturers attribute the decrease to the American tariff, but their conclusion is undoubtedly wrong, as the tariff has not been increased since 1897, while the exports during 1907 were almost as large as any in the history of the export business. The two causes contributing largely to the decrease in exports is the decrease in demand for long gloves, which reached high tide in 1907, also the financial depression in the United States in 1908. The exporters should see that all orders are promptly filled, and that the quality is always kept up to the standard.

Exports to Germany also declined, largely because the German export trade to the United States declined, and the dealers patronized home manufacturers in order to keep home labor employed. The value of gloves made in Bohemia in 1908 amounted to $4,060,000. In the manufacture of gloves upward of 2,000 cutters are employed and about 4,000 women and girls in the sewing and various other branches of the business. A large percentage of the gloves are made in factories, although quite an amount of work is still carried on in the homes. For cutting short gloves from 53 to 61 cents per dozen pairs is paid, and for the long gloves slightly higher prices. For sewing short gloves, round seams, the workmen receive from 49 to 52 cents per dozen pairs, and for piqué work 73 to 81 cents per dozen pairs. Notwithstanding the great industry in Bohemia, there are imported into Prague large quantities of English-made gloves.

RUSSIA.

THE MANUFACTURE OF ANILINE OIL AND SALT.

Consul-General Hunter Sharp, of Moscow, furnishes the following information in regard to making aniline basic materials in Russia:

There are at present two factories in Russia producing aniline oil and salt. Both employ foreign raw material, and owing to the demand for the aniline oil in making the dyes used in the textile industry these concerns (the Tentelew Chemical Works, at St. Petersburg, and the R. Maier Co., at Revel) were able, in convention with a syndicate of foreign manufacturers, to maintain the comparatively high prices of 13.35 rubles per pood ($6.88 per 36 pounds) for aniline salt, and 14.35 rubles per pood ($7.39 per 36 pounds) for aniline oil throughout the year 1908.

The Russian Benzol Aniline Manufacturing Company, of Kineshma, in the Kostroma Government, is now manufacturing an aniline oil from benzol produced by working over the naphtha products. By thus using native instead of improved raw material this company is enabled to produce a cheaper aniline oil than would otherwise be possible, but it was put on the Moscow market only toward the end of last year, too late to affect the high prices prevailing during the year.

JAPAN.

STEADY ADVANCEMENT SHOWN IN THE ELECTRICAL INDUSTRY.

Vice Consul-General E. G. Babbitt, of Yokohama, transmits an article from the Japan Advertiser, translated from a Japanese publication, the Electricians' Friend, showing the conditions of the electric industry of the Empire in 1908, from which the following statistics are compiled:

Telegraphs.—The problem, which had been pending decision since Manchuria came into our control, was at last settled on November 7; consequently the Chefoo-Canton cable and the wires came into our possession. Telegraph offices at the close of 1908, 3,308; total length of telegraph lines, 5,387 miles; total length of wires, 92,227 miles; telegrams handled, domestic, 7,544,400; foreign, 363,260.

Wireless: The Teishinsho system of wireless telegraphy in Japan, which differs from the Marconi and De Forrest systems, has been improved as a result of the long study of the engineers concerned. Nearly all Japanese steamships on foreign lines are furnished with wireless telegraphy. In the navy all ships, from battle ships down to torpedo-boat destroyers, are equipped with wireless telegraphy, and the wireless telephone was successfully used at the grand naval review off Kobe last autumn. The wireless telephone is being studied in the communication department and in the navy.

The wireless seashore offices are at the following places: Chasi, Kadoshima, Ochiishi, Osozski, and Ushiozski.

Telephones.—To cope with the rapid growth of commercial industry, the Government undertook the second extension at an estimate of $10,000,000 gold for six years in succession from 1907, and invested $1,500,000 in 1908. In accordance with the rule that any place may be provided with a telephone exchange on special application, 122 regular and special exchanges were installed in 1908, including Formosa, Korea, and Manchuria. Existing exchanges, 206.

Since the organization of the communication brigade, our army has enjoyed facilities and improvements in conveying messages. The best results of this new organization were obtained at the military maneuvers last fall.

Light and power.—Existing light and power industry at the end of 1908: Steam, 54,550 kilowatts; water, 31,951 kilowatts; gas, 105 kilowatts; total, 86,606 kilowatts, an increase of 12,090 as compared with 1907. It was worthy of special notice that the Tokyo Electric Light Company suceeded in the high transmission of 55,000 volts over a distance of 47 miles, from Katsura to Tokyo.

Electric manufacture.—The electric manufacturing industry of Japan made vast strides in 1908, and was competing fairly successfully with foreign products, even 300 to 500 kilowatt generators, of which 200,000 volt oil immersed testing transformers and 50,000 to 150,000 volt insulators were manufactured in Japan. The depreciation in copper encouraged the electric manufacturing industry, which consumes a large quantity of this metal. A large number of electric educational institutes are established in Japan, and the publication of books on electric science and chemistry is largely carried on. The art of electric illumination was improved markedly owing to the artistic talent of the Japanese.

BRITISH INDIA.

MANUFACTURE OF SULPHURIC ACID FOR OIL REFINING IN BURMA.

On account of the rapid development of the oil industry in Burma, a company has been registered in Rangoon for the manufacture of sulphuric acid for local oil refining, concerning which Consul E. A. Wakefield supplies the following information:

The new company is capitalized at $160,000, which has been largely oversubscribed by local investors, including oil companies. If the project is successful, various other products will be manufactured, such as vegetable dyes, fertilizers, and other articles, utilizing the alkaline earth deposits of Burma.

At present sulphuric acid is high, as the charges for freight, insurance, and packing add heavily to the cost price. It is now imported from Great Britain alone, last year's importation amounting to 2,080 short tons, valued at $119,766, or $57.60 per ton. The duty is 5 per cent ad valorem, which, with the cost of freight, insurance, and packing of the imported article, is expected to afford ample protection for the local product. The new industry is attracting more than passing attention, as showing a disposition among local capitalists to develop the manufacturing capabilities of the country. [The names of the promoters of the new company, with whom manufacturers of machinery in this line might communicate, are on file in the Bureau of Manufactures.]

CHILE.

DISAGREEMENT AS TO SHARE OF THE NITRATE OUTPUT.

Consul Rea Hanna, of Iquique, advises that at a meeting held on March 29, 1909, it was definitely decided to discontinue the combination among the Chilean producers of nitrate of soda, for the control of the production and exportation of that article. The consul writes:

Forty-one producers, representing 77 "oficinas" (nitrate works), accepted quotas of production aggregating 40,480,000 Spanish quintals of 101.61 pounds each, and 46 producers, representing 77 oficinas, refused to accept the quotas assigned to them. Those refusing to accept demanded quotas aggregating 10,800,000 quintals more than was proposed to them.

As a consequence the nitrate combination ceased to exist on March 31, 1909. In the future, or until a new combination be formed, there will be unlimited production and exportation by the several oficinas.

This condition is desired by many of the producers who possess rich deposits and whose cost of production is low, and the general opinion is that the nitrate market will suffer at least only a temporary fluctuation as a result. The "Associacion Salitrera de Propaganda," however, still continues as an advertising medium, and as a statistical department for the industry.

CANADA.

USUAL ACTIVITY MANIFEST IN THE LOBSTER FISHERIES.

Consul Franklin D. Hale, of Charlottetown, under date of April 9, makes the following report on the lobster fisheries of Prince Edward Island, Canada:

Notwithstanding the forced drop in the price of lobsters from $16 a case last year to $10 or below during the past three months, which might naturally discourage the lobster fishermen from any great activity during the season of 1909, the Department of Fisheries is of the opinion that the usual number of persons and traps will be employed in the local industry, and they do not look for any marked reduction in the amount of the catch occasioned by the decline in price. The high price of last year was abnormal, and reasonable returns for labor and investment can be realized at the lower average price of $10 or $12 per case.

It is estimated that not more than 1,500 or 2,000 cases now remain in the hands of packers or exporters in this island; it is possible that a larger quantity still remains unsold in the hands of agents in the foreign markets, awaiting demand and a higher price. At the annual session of the provincial legislative assembly, recently prorogued, an act was passed making the open season begin April 26 instead of April 20 as heretofore. The people here realize the possible increased value of their fisheries and try in every way to conserve this natural source of local wealth.

AUSTRALIA.

NEW TARIFF RESULTS IN ESTABLISHMENT OF FACTORIES.

Consul John F. Jewell, of Melbourne, reports that since the new Australian tariff has been in force many manufacturing industries new to the Commonwealth have been established. Among others he notes the following recent instances of the activity in this direction:

A well-known English firm of brush makers has opened a branch factory in Melbourne for the manufacture of paint brushes, which have hitherto been imported from Great Britain, and it is the intention of this firm also to make all other kinds of brushware for which there is a demand in Australia.

Two of the largest firms of match makers in England have, in conjunction, purchased land in Melbourne and are erecting a large factory, which will supply practically the whole Australian demand in wax matches. The manufacture of clothing and hats of a superior quality, now supplied by importations, has been commenced on a large scale in Adelaide, South Australia, and the sewing machines used are entirely of American manufacture.

PEARL-BUTTON MAKING.

EXTENT OF THE INDUSTRY IN THE UNITED STATES AND JAPAN.

In 1905 the value of buttons manufactured in the United States, as given in a special report of the Census Bureau, was $10,074,872. This was an increase of $3,564,709, or 66.5 per cent, over the value of the product in 1900. Of the total button product pearl buttons constituted nearly one-half (48.3 per cent), or $4,870,274 in value. Over two-thirds of the pearl buttons were made from fresh-water shells and somewhat less than one-third from ocean shells.

The number of button factories in the United States in 1905 was 275. These represented a capital of $7,783,900, and gave employment to 11,335 persons, to whom were paid in salaries and wages $4,691,669. The aggregate value of buttons and by-products from these factories during 1905 was $11,133,769. Over half of the 275 button factories in the United States engaged to a greater or less extent in the manufacture of pearl buttons, an increase of over 20 per cent since 1900 in the number so engaged. New York, with 27 factories, produced pearl buttons in 1905 to the value of $1,844,432; Iowa came next, with 51 factories and products valued at $1,500,945; New Jersey, as the third in production, had 11 factories and turned out $480,765 worth of pearl buttons.

VALUE OF BUTTON IMPORTS.

The imports of buttons and button forms of all kinds were valued in 1905 at $866,178, in 1907 at $936,085, and in 1908 at $652,691. These came principally from France, Germany, and Austria-Hungary, the relative amounts from each of these countries ranking in the order named. Under the head of pearl and shell buttons the Bureau of Statistics gives imports to the value of $172,101 for 1905, $164,154 for 1907, and $92,629 for 1908. It would appear that the United States is very nearly meeting by domestic manufacture its constantly increasing demand for pearl buttons for home use.

Imports of buttons from Japan, mainly pearl, although only $2,004 in value in 1907, have nevertheless nearly trebled over those of 1905. In view, therefore, of the considerable increase in recent years in the manufacture of pearl buttons for export in Japan, and the introduction of machinery into the button factories there, an examination of the methods followed will be of interest to American manufacturers. The following facts are gleaned from a German consular report on the subject:

MANUFACTURE OF PEARL BUTTONS IN JAPAN.

Japanese pearl buttons come into the market under the names of the shells from which they are made. The principal kinds are: Takase, shinju, awabi, sazae, and hirose. The first mentioned of these are found on the Ryukyu Islands; also about Formosa, the South Sea, and the Dutch East Indies. The best shinju are obtained from Ise and Omura. Formerly many were imported from India, the shells from which are thicker and permit shaping of the buttons by boring out. Since the question of prices has, however, become a more important point, the thinner and cheaper Japanese shinjus are used almost exclusively. Awabi shells come from the islands near the west coast of Kyushu, particularly from Gotshima and about Hirati. Sazae shells are obtained for the greater part from Iyo and Bungo. Fishing for hirose shells has been decreasing at the Ryukyu Islands for some time, as the beds near at hand have become exhausted, and it has not been found profitable to work at greater distances.

COST OF SHELLS—NUMBER OF FACTORIES.

The prices of shells vary greatly, according to the quality of the lots. Takase shells may be bought as low as 5 yen (1 yen=49.8 cents) per 100 kin (1 kin=1.34 pounds), or $1.86 per 100 pounds, but there are also grades costing as high as 20 yen per 100 kin, the average price of shells most used in Japan in making buttons for export being about 10 yen. Some 60 gross are made from 100 kin. Hirose shells are now about the same in price as takase. Awabi cost more, the dearest bringing as much as 45 yen per 100 kin. These shells are globular in form, and are used in the making of large buttons, while for small buttons the so-called "ears" of the shells are utilized, these costing only about 1.50 yen per 100 kin, the buttons from them being largely exported as blanks. Shinju shells bring about 4.50 yen. Sazae are cheap, that is, about 2 yen per 100 kin, but the available part is very small. While 100 kin of shinju shells give approximately 250 gross of number 16 buttons, the product of an equal weight of sazae shells is usually only about 50 gross.

Sailing vessels bring the greater part of the shells to Kobe or Osaka, the latter being the chief market, although large lots are often obtainable in Tokyo.

There are five of the larger button factories in Kobe and Osaka, and some 80 smaller shops in Osaka and the Kavansai district. In the latter a single family often does all of the work. There are also many such small shops in Kyshu, and some in Kioto, Okayama, and Kyushu. The largest factory is in Kobe, which, under favorable conditions, gives employment to 150 persons. All of the work from the shell to the bleaching is done here, the sewing of the buttons on cards being the only part performed by working people in their own houses. Each workman in the factory is assigned to a special line of work, and is paid according to the number and quality of the buttons turned out. The tools which he uses are generally his own property.

BUTTON-MAKING FOLLOWED IN HOMES—METHODS.

In Osaka the work is done for the greater part by the piece in separate factories or in houses, although factory work and house manufacture go hand in hand. Boring of the blanks and shaping is done partly in the factories and partly outside. In many houses a specialty is made of boring the holes. Bleaching is done by the factories themselves, while the sewing of the buttons on cards is done by many outside workers, silver, paper, cardboard, and thread being furnished to the latter. These smaller workmen rarely buy shells to work up, but are paid by the gross to do certain parts of the work on shells or buttons issued to them.

The buttons made from takase shells are the most important of those produced in Japan. The manner of their manufacture is as follows: First, the blanks are blocked out. The boring machines for this purpose are all alike in principle. The new ones, however, have a balance wheel, with a cogwheel for the transmission of power, and are worked by a treadle, while the old ones are turned by hand. The boring tool itself if of steel and in the form of a hollow cylinder. This is pressed by means of a spiral spring against the shell, thus boring out plates of a size corresponding to the diameter of the cylinder. The under surface of the shell is first worked upon, then the lowest side ring. The adhering outside skeleton is then broken off by the children, and the adjoining under surface and the next ring are worked up, and so on until near the tip, where the shell becomes white and salty and not utilizable for buttons. No use has thus far been found for the outer skeleton. The blanks or plates are sorted out according to their thickness, and any projecting portions which remain on the under side are broken off.

POLISHING AND BORING THE BLANKS.

The polishing of the blanks on both sides is the next step. To accomplish this, they are laid on an iron disk which has a large number of round depressions exactly the size of the blanks. Moist clay is then put over them and the rough surfaces are polished by rubbing with heavy flat stones. Shaping up is then begun. The blanks are fastened singly in a wooden spindle attached to a turning lathe, the end of the spindle being split and having a suitable cut for holding the blank, and the latter being clamped by a sliding ring on the spindle. The workman turns the spindle by means of a treadle, and at the same time shapes the surface of the button blank with various implements.

The blanks are then put into what is known as a "drum." This is merely a large receptacle which is suspended and is constantly turned by boys. Water and clay having been added, the continued rubbing together of the button blanks in this substance wears away any rough surface left by the tools.

Boring the holes is the next operation. This is also done on a lathe, either with one needle or with two or four needles. Arrangements for boring several holes at the same time are rarely found outside of certain workshops in Osaka, where nothing but boring is done. The boring apparatus in use is still rather impractical, the setting of it for the various sizes of buttons and sizes of holes being troublesome. In small shops and in factories, where all of the operations from start to finish are performed, most of the boring is done with one needle only, which is usually a pointed bit of steel taken from an umbrella frame. Against this needle in rapid revolution the button plank to be bored is pressed, the latter being firmly clamped in a small handle constructed in a manner similar to that in which the button planks are held when the surface is shaped up. This handle is square and lies in a right-angled trough, in which it is turned twice, or four times, according to the number of holes desired in the button. The needle is so placed that it strikes the button at one side of the center. Considerable skill is required, however, and boring with several needles at the same time is considered safer in general.

MANNER OF BLEACHING.

The next process is that of bleaching. This is accomplished by letting the buttons remain for a time in earthenware pots placed over glowing coals and filled with water in which an acid has been mixed. The time required for proper bleaching varies with the thickness of the buttons, being usually 3 to 5 days, but very thick or large buttons may even require longer. The principal acid used is sulphuric, which is easily obtainable in Japan. Each manufacturer is apt to believe that his special process in bleaching is superior to that of others, and he therefore endeavors to preserve it as a secret. It is believed, however, that all are fundamentally the same.

It is important not to leave the buttons to bleach too long, as they then lose their luster and become brittle—faults which can not later be remedied. The bleached buttons are placed in cotton sacks, which are then vigorously pulled and drawn back and forth by two men, one at either end. In this way the buttons are made to rub against each other and against the sides of the sack and become polished. Large buttons are usually put into the lathe again and polished one by one with a cloth and polishing powder. The buttons are then sorted according to quality and sewed on silver paper, with cardboard underneath, and placed in wooden boxes. The smaller and cheaper buttons are often sewed on blue paper without cardboard. These are usually put up in lots of a gross each, while the larger ones are put up in cards of 2 or 3 dozen.

EMPLOYEES AND SCALE OF WAGES—INTRODUCTION OF MACHINERY.

The shaping up of the blanks is mostly done by men; likewise much of the cutting out of these blanks from the shells, while the rest of the work is almost exclusively done by women. As the takase shells are expensive only skillful workmen are employed in shaping them up. Hirose and awabi shells are worked up in the same manner as takase, only the awabi are not bleached. Sazae are treated much in the same way, except that in this case the shells are first broken into convenient pieces and these are then worked up one by one. This is nearly all done by half-grown girls. Sazae and also shinju buttons have to be sold cheaply, hence the wages for work on them are low and the workmen give up this line as soon as anything better can be had. The making of buttons from shinju shells is simpler. After the blanks have been cut they are placed in the drum to be polished, then they go to the lathe where a circle is traced parallel to the circumference, the holes are bored, and the buttons are then put into the hot acid water for a short time to give them a luster. They are then sewed on thin silver paper or on blue paper.

The following prices are paid per 1,000 for work on shinju buttons: Boring the plates, 4.5 sen (1 sen=½ cent); carving circles, 2 sen; boring two holes, 8 sen; per 12 gross, for cleaning in the drum, 2 sen; and for sewing on paper 5 sen. For sazae buttons somewhat more is paid, the material being somewhat thicker, harder, and heavier to work. Boring out the blanks from the shell costs 13 sen, shaping surface, 26 sen, and boring holes 12 sen per 12 gross. These prices are for size No. 16. Notwithstanding the cheapness of this work buyers have in recent years become very critical as to any irregularities. These are liable to occur as the workmen change frequently and in fact only take up with this work as a rule for the purpose of learning how to make more valuable buttons. Formerly both the making of blank buttons and the boring of holes were done in prisons. This is continued only in Okayama. Payment is made in this case by weight.

Up to a very recent date hand manufacture was followed exclusively. Not long since, however, a maker in Osaka installed a gas motor with which he drives a large polishing wheel for finishing both surfaces of the buttons. The Kobé factory plans the introduction of motive power, but up to the close of 1908 had not secured proper electric connection. Whether the arrangement will pay or not remains to be seen. The Osaka factory has had good results with the polishing apparatus installed, and many of the other manufacturers send their blanks there to be further worked up.

EXPORTATION OF PEARL BUTTONS FROM JAPAN.

Up to within a year dealers could not furnish buttons enough to fill their large orders, particularly those from Europe. Buyers were therefore glad to get wares and did not criticise them too closely as to quality. But with the depression in the button business it has become necessary to examine the buttons one by one and to reject lots that do not meet rather a high standard.

For export, buttons are packed in strong wooden cases lined with zinc. During the year ended June 30, 1908, the exports of pearl buttons to various countries were, according to the statistics of the Kobé custom-house, as follows from that port:

Countries.	Gross.	Countries.	Gross.
Germany	260,000	Belgium	12,000
Great Britain	120,000	Philippine Islands	6,200
Egypt	60,000	Hongkong	6,000
France	56,000	United States	5,000
Australia	41,000	Other countries	76,000
British India	24,000		
Straits Settlement	21,000	Total	701,200
Netherlands-India	14,000		

The exports by years for the five fiscal years ending with 1907 are given by the Japanese imperial customs returns as follows:

Year.	Gross.	Value.
1903	1,466,380	$116,783
1904	1,625,100	114,473
1905	754,709	74,652
1906	1,516,259	169,275
1907	1,472,902	271,564

MARKET CONDITIONS IN JAPAN.

The prices for pearl buttons during 1908 were, in general, about 10 per cent less than those of 1907, and probably reached their lowest point. An examination of the conditions prevailing during the period in question and the opening of the year 1909 points to this conclusion. The fall in prices began with the failure of orders early in 1908, due to the stringency of the money market. Although the prices for shells have remained nearly the same, the wages of workmen have gone down somewhat. A strike among Japanese workmen occurred at the opening of the year, but as orders were slackening up this was not felt much and availed the strikers nothing. The working force has been reduced nearly one-half and production greatly limited during the year. Manufacturers were glad to be able to keep things moving at all. The trade has begun to pick up, however, and it is anticipated that the former prices will soon be reached again.

New markets are constantly being found for Japanese pearl buttons, and the demand is increasing in general. Orders during 1907 exceeded the product. Germany has thus far always been the largest direct buyer. Considerable numbers go to England and also to France. The French product from home shells is better in quality, but is dearer. Since the stocks of shells on hand in Japan were not large at the beginning of 1909, and their prices remained about the same as before, it is hardly to be expected, notwithstanding the depression in the trade still prevailing then, that lower rates for buttons will obtain. This probability is further strengthened by the prospect of an advance in wages over present rates, the increased cost of living in Japan demanding that the former price of labor should be restored, or even that a higher scale than that be adopted. The outlook therefore for a considerable increase in orders at an early date is good, and this will of course revive all lines of the industry in Japan, benefiting manufacturers and workmen.

PRICES IN JAPAN AT THE OPENING OF THE YEAR.

The following is a sample of the prices in Japan in January, 1909, per lot of 12 gross for various sizes of first quality bleached takase buttons sewed on silver paper with cardboard underneath:

No.	12 gross.	No.	12 gross.
14	$1.94	22	$3.78
15	2.04	24	4.19
16	2.29	26	5.28
18	2.71	28	6.27
20	3.24	30	7.27

Second quality takase buttons are 20 per cent less. Unbleached takase are 10 per cent less and are on blue paper without cards. Second quality unbleached, 25 per cent less.

Bleached takase, first quality, elongated forms, on silver paper and cardboard, are priced as follows:

No.	Per gross.	No.	Per gross.
18	$5.23	26	$8.52
20	6.18	28	9.16
22	6.57	30	10.51
24	7.47	32	13.15

Second quality cost 20 per cent less.

Bleached takase, first quality, round, are priced thus:

No.	Per gross.	No.	Per gross.
10	$3.44	15	$4.28
12	3.54	16	4.48
14	3.64	18	5.48

Second quality are 10 per cent less.

These prices are for buttons with two small holes. For larger holes 2 cents, and for four holes 4 cents, per gross is added.

GERMAN GLASS TRADE KARTELL.

ADOPTION OF REGULATIONS AFFECTING THE LAMP TRADE.

Consul-General Richard Guenther, of Frankfort, reports that at a meeting of the "German Associated Manufacturers of Glasswares for Illuminating Purposes" recently held at Dresden, terms were agreed upon with the "Association of German Wholesale Dealers in Lamps," whereby price and credit terms, discount rates, etc., were fixed which are to rule the wholesale and retail trade. The first-named association comprises 28 glass works, which have an annual output of glassware for illuminating uses amounting to $15,000,000 marks ($3,570,000). The other party to this combine, the "Association of German Wholesale Dealers in Lamps," is composed of 66 of the most prominent lamp manufacturers and dealers in lamps in Germany.

CHEMICAL DISTILLATES.

FRANCE.

SIMPLER AND MORE ECONOMICAL METHOD OF MAKING ACETONE.

In reply to an inquiry relative to a report on the manufacture of acetone in Great Britain and France, published in Monthly Consular and Trade Reports, February, 1909, Consul Maxwell Blake, of Dunfermline, Scotland, forwards the following description of the method of making acetone in France, as ascertained from a British semiofficial report of the process:

The raw material used in the manufacture of acetone is wood, cut to meter (meter=39.37 inches) lengths and varying from 1 to 8 inches in diameter. The kinds of wood used are elm, poplar, beech, and oak, which are common in underwood growths all over Great Britain. The sticks of wood are first carefully packed in retorts, which are hoisted by hydraulic cranes into the furnaces, the retorts being about 10 feet high by 5 feet diameter.

The iron retorts in which the wood is roasted are oblong in shape, and fitted with iron rings on each side for the purpose of the crane and an orifice at the top to allow the gases to pass out through the rest of the plant. The connections are plugged with clay when the restort is inserted in the furnace.

PLANT PRODUCES ITS OWN FUEL.

One of the admirable points about this system of Pages, Camus & Co. is that the tar produced from the wood is used as the fuel to create the heat necessary for the distillation. This wood tar is sprayed with a jet of steam and used much as oil is used in furnaces constructed for that particular fuel. In consequence the firm does not use any coal whatever in the process, which is in itself a great advantage; and if the industry in its new phase ever becomes a British one, the woodland areas and not the coal areas will be the place where the manufacture will most probably be established. It takes about 40 tons of wood to make a ton of acetone.

After the retort full of wood becomes sufficiently hot, the gases from the wood rise and fall through several continuous closed chambers, two of which are constructed with baffle plates in order that the wood tars may be caught and arrested early in the process. Eventually, at the end of the last closed chamber, the water, which has taken its proper share in the condensation of the vapors, comes out a black and oily compound. The result obtained is ordinary wood spirit, methylene acetone, and acetic acid. Methylene as usually employed for excise purposes is also obtained.

OUTPUT—ADVANTAGES OF NEW PROCESS.

When the gases have been thoroughly expelled from the wood, only charcoal remains, which is used or sold. The annual production of this particular factory is as follows: Charcoal, 5,000 tons; tar, 1,000 tons; crude pyroligneous acid, 10,500 tons; methylene for excise purposes, 350,000 liters, or about 70,000 gallons.

As compared with former processes, the number of operations in this new method are fewer and more simple. There is also greater economy, few copper vessels being needed, and there is the great advantage also arising from the use of the crude wood tar, which is one of the most difficult by-products to dispose of when not utilized for fuel. It is a curious fact, moreover, that the production of tar during the process seems to balance exactly the needs of the furnaces in which they are suspended and heated.

A summary of the chief features of the new process is as follows: (1) The utilization of the vapors arising from the stills containing the wood for the removal of a large proportion of the water distilled therefrom and consequent concentration of the resulting pyroligneous liquors; (2) the method of saturation of the above liquors by means of atomizers working in the condensers; (3) the complete removal of the tars produced in the operation; (4) the passing of these acid tars downward over bafflers, where they are met by the upward current of gases, to which they give up the acetic acid contained in them; (5) securing by the means described a pyroligneous acid or pyrolignite of sodium of a higher degree of purity than the corresponding products obtained by the old process.

The improvements in the new process are fundamental, and anyone contemplating the establishment of new works will do well to adopt them. As regards the question of acetone manufacture, direct pyroligneous acid can now be obtained by the new method at once, which acid is then available for conversion into acetone without further purification, the use of acetate of lime being no longer required. The reduction of cost by this method is stated to be about 25 to 30 per cent.

CANADA.

SUCCESSFUL DISTILLING OF TURPENTINE BY ELECTRICITY.

The attention of Consul-General George N. West has been called to a small plant in operation in Vancouver in which experiments have been carried on for several years with the view of obtaining turpentine from the resinous woods of British Columbia by an electrical process of distillation. He reviews the progress made:

The operations thus far have been carried on in a small way, only about two cords of wood or mill refuse having been treated daily. It is claimed, however, that the results have been eminently satisfactory. The turpentine, after tests by chemists and painters, who have used the product both for inside and outside work, pronounce it to be equal if not superior to the turpentine distilled from the long-leaf pine of the South. From 1 cord of the resinous wood treated it is claimed that the tar, oil, rosin, pitch, and charcoal (the by-products), more than pay the cost of the distillation of the turpentine, thereby making this process a valuable one.

It is claimed that from 1 cord of pitchy wood costing $5 there can be extracted chemically pure turpentine. tar oil, rosin, charcoal, and pitch to the aggregate value of $24.70, the present market value of these commodities, at an expense of $12, giving returns of $12.70 per cord. That this statement is not erroneous is vouched for by persons who have the most thorough knowledge of the process and cost of manufacture, they claiming that the small plant now in operation is producing the products at the price per cord stated.

The amounts of by-products said to be obtained from 1 cord of wood (amount of turpentine secured not being stated) are as follows: Rosin, 60 pounds; tar oil, 20 gallons; charcoal, 1,300 pounds. The oil is used for wood preservative, and is also manufactured into shingle stain. The charcoal, having been coked and cooled in a can out of contact with the air, is very perfect and valuable for making powder.

The resinous woods necessary for use in this plant are accessible in large quantities at cheap rates, not only from the many mills in Vancouver and near vicinity, but also from the standing timber that is not suitable for lumber, and can readily be procured. The plant has recently been increased to treat 40 cords of wood per day.

AUSTRALIAN FUR SKINS.

TASMANIAN DEALERS DESIRE DIRECT TRADE WITH AMERICAN BUYERS.

Consul Henry D. Baker, of Hobart, sends the following report on the desirability of establishing direct trade relations between Tasmanian fur-skin dealers and importers in the United States:

Fur-skin merchants of Tasmania desire to cultivate a direct trade with the United States. They claim that this trade would result in greater profit both to American importers and Tasmanian exporters if it could be conducted without intermediate agencies in Melbourne, Sydney, and London. One dealer claims that a direct trade would result in a saving of 1 cent per pound to both American buyers and Tasmanian sellers on rabbit skins. In the case of opossum skins, which have been selling recently at the highest prices on record, about $4.85 per dozen, it is said that American buyers could obtain their skins more cheaply if they would purchase them direct from Tasmania.

The kangaroos, wallabies, and opossums are becoming scarcer in Tasmania, and they are now protected on the crown lands, so that there is a good reason for the advance in prices of these skins. In the case of rabbit skins there is no need of paying high prices if American importers would only make their purchases in this market. Most of the skins which find their way to the United States do so through London, the Australian merchants shipping most of the skins they buy here to that city, where a large proportion are probably bought for American account. The fur-skin dealers here would like to know the names of American importers who are now purchasing skins from London, Sydney, or Melbourne, so that they may enter into correspondence with them for a direct trade.

The following extracts are taken from a letter received at this consulate from a Tasmanian fur-skin dealer:

> It is always admitted that our furriers' skins, presumably on account of ours being the coldest climate in Australia, carry the best coating of fur and are of a richer color than any other similar skins in Australia, and yet most of these are either bought by the mainland merchants and shipped to London or shipped direct to London from here, and eventually a number of them find their way to the United States. Direct trade with the United States could be developed with better results to the manufacturer and more profit to ourselves, as the saving in shipping charges alone amount to considerable. Our furs are taken and are available here from April to July, and this firm will be pleased to give full information relative to the trade and also submit sample skins to prospective importers.

[Addresses of Tasmanian fur-skin dealers may be obtained from the Bureau of Manufactures.]

VICTORIA.

TURNING THE RABBIT PEST INTO A COMMERCIAL INDUSTRY.

From an official report concerning the destruction of rabbits in the State of Victoria, Consul John F. Jewell, of Melbourne, furnishes the following statistics concerning the exports of frozen rabbits and rabbit skins to England and the exports of skins to the United States:

During the past five years 41,423,000 frozen rabbits have been exported from Victoria, principally to England; also 98,242,000 skins, while 5,000,000 skins went into local consumption, making a total of 103,242,000 skins.

An important aspect of the industry, from an American point of view, is the increasing export of rabbit skins from Victoria to the United States, as shown in the following return, based on invoice values declared at this consulate: 1904, $2,754; 1905, $4,697; 1906, $68,323; 1907, $168,673; 1908, $243,382.

CONTROLLING THE RABBIT PEST IN VICTORIA.

Rabbits are not indigenous to Australia, but were first introduced fifty or sixty years ago, when two or three pairs were brought into Victoria from England to be bred for hunting purposes, and multiplied so rapidly that as far back as 1880 steps had to be taken by the governments of some of the States in order to keep them within control. They are met with now in practically every part of Australia, and have proved most troublesome to the farming and grazing interests, particularly in the States of Victoria and New South Wales, in which many valuable ranches have been ruined by their depredations.

In Victoria some mitigation of the evil has been found in the commercial importance these animals have attained of recent years, and a complete system is established by the government, administered by an officer known as the chief inspector of vermin, by which they are kept within control by means of wire-netting fences, poisoning, trapping, etc., on the crown lands, and by laws compelling owners of private lands to adopt similar means of checking their increase.

AUSTRALIAN SKINS IN UNITED STATES.

LARGE IMPORTS PROBABLY RECEIVED BY WAY OF UNITED KINGDOM.

According to official returns published at Melbourne, the total exports of rabbit skins from Australia in 1907 were valued at $1,837,030, of which the exports to the United Kingdom amounted to $1,372,050 and those to the United States to $295,347, the remainder going to Italy, Belgium, New Zealand, etc.

The total imports of rabbit skins into the United Kingdom in 1907, according to British statistics, amounted to $2,743,854, of which $1,796,206 worth was composed of Australian and $198,854 worth of New Zealand skins, the remainder being imported from Belgium ($615,240), France, Netherlands, etc.

The exports of foreign and colonial rabbit skins from the United Kingdom in 1907 amounted to $1,836,000, of which the exports to the United States amounted to $907,344 and the exports to Belgium to $697,354. How much of these exports to the United States were

Australian skins can not be definitely stated, but it may be assumed that the larger part were the products of those colonies, and that hence the United States is, perhaps, a larger consumer of Australian rabbit skins than even the United Kingdom.

FACTORIES IN CHILE.

GROWTH OF MANUFACTURING—TRADE SCHOOLS BENEFICIAL.

In reporting that the industrial and manufacturing interests of Chile made a good showing during the past year, Consul Alfred A. Winslow, of Valparaiso, gives the following facts:

There were 2,829 factories in operation on January 1, 1909, employing each 4 or more operators, in the 16 industrial provinces, not including the nitrate fields. These 2,829 factories gave employment to 51,353 persons, of whom 32,795 were men, 14,444 women, and 4,114 children. The capital of these industries amounted to $46,114,426 United States gold, with a productive capacity of $67,509,609 in finished products per annum. During 1908 these factories consumed imported raw material to the value of $8,781,907. The motive power of these factories consists of 26,000 horsepower, of which 10,600 were hydraulic. Some extensive hydraulic electrical power plants are either in course of construction or under contemplation.

During 1908 there were 15 industrial schools, giving instruction to about 3,300 pupils, of which 8 were located in Santiago, and the others in the various provinces. Much interest is being taken in these schools and their work is telling for good in the industrial development of the country. These schools are well equipped with up-to-date appliances, many of them being from the United States.

NEW AUSTRIAN COMPANIES.

FORMATION OF STOCK CONCERNS STILL CONTINUES.

Despite the depressed condition of trade in Austria along various lines, Consul Joseph I. Brittain, of Prague, advises that there has been a considerable investment of capital and many new companies formed. He writes:

The investment of capital, as shown from the following report, indicates that business was not so prosperous in 1908 as during 1907. According to the latest published returns in 1908, there were organized 35 joint stock companies with a capital of $15,590,000, against 67 similar companies in 1907 with a capital of $27,450,000; 262 limited companies with a capital of $12,750,000, against 185 similar companies in 1907 with a capital of $10,360,000; and 235 private enterprises of an industrial nature, against 544 similar enterprises in 1907. The number of limited companies alone has materially increased.

The general disposition of the manufacturers and business men conducting large concerns is to await future developments. With few exceptions, business is much less active than during the beginning of the past year; especially is this true regarding the cotton trade. On the other hand, the prices for food products continue to advance, making the condition of the laboring man less agreeable.

AMERICAN FACTORIES IN EUROPE.

FARM MACHINERY TO BE MANUFACTURED IN FRANCE AND GERMANY.

Consular and Trade Reports has already made reference to the establishment of agricultural-machinery works in France and Germany by a prominent American firm. Consul Joseph Emerson Haven, of Roubaix, now supplies the following details:

The International Harvester Company, of the United States, has purchased approximately 25 acres of land in the town of Croix (Nord), a suburb of Roubaix, and has passed contracts for the construction of foundry and forge buildings, each to be 400 feet long by 100 feet wide. A building 450 feet long and 117 feet wide, and an engine house containing two Babcock & Wilcox steam generators were already on the grounds and were included in the purchase. Plans have been drawn for a twine factory, as well as for other necessary buildings.

Arrangements have been made with the Chemin de Fer du Nord (Northern Railway Company), to lay sidetracks in the grounds, and it is hoped that all construction will be completed in time to manufacture the 1910 French output.

A factory is also contemplated at Neuss, Germany (near Dusseldorf). Twenty-five acres of land were purchased from the city, but, as no buildings were on the grounds at the time, it is probable that the French factory will be first in operation.

The working capital and cost of the two plants are estimated at about 30,000,000 francs ($5,790,000), and the factory at Croix will supply employment for 1,500 to 2,000 men.

The company has the double advantage of being situated on the canal (connecting with Dunkerque on the English Channel), and in close proximity to the Belgian frontier, from which country labor can, if necessary, be obtained.

JAPANESE WHALING COMBINE.

CONSOLIDATION OF COMPANIES—PRESERVATION OF ANIMALS.

Vice-Consul-General E. G. Babbitt forwards from Yokohama, under date of February 6, the following press clipping giving details of the consolidation of Japanese whaling companies:

With a view to placing the industry on a better and more paying basis, arrangements have been made as to an amalgamation of the Toyo, Dai Nippon, Nagasaki, and Teikoku whaling companies, and steps are now being taken toward the buying up of the Naigai, Tokai, Taiheiyo, and five other companies. It is expected that the new amalgamated company will be in a position to open business by the beginning of April. The capital of the company is to be $2,500,000 gold, of which $1,500,000 will be paid up. Mr. B. Maki will be president. The total catch of whales during the year ending August last amounted to 1,790 carcasses. The demand for whale flesh in the country, especially in Kyushu, is steadily increasing, but the export of whale oil has been inactive of late years, largely owing to the depression of trade in Germany. In consequence of the increase in the number of whalers, an average catch of each vessel has decreased in the total. Moreover, the wholesale and indiscriminate slaughter of whales is seriously interfering with the propagation of the animal, and the authorities are said to have in contemplation the adoption of some measures to prevent the reckless destruction of whales as at present.

GERMAN CANARY BIRD BREEDING.

LARGE EXPORTS TO THE UNITED STATES—TRADE CONDITIONS.

In the following report from Hanover, Consul Robert J. Thompson summarizes the statistics as to canary birds, and gives the views of a German exporter of these songsters:

The export of canary birds to the United States from this district during the year 1908 amounted in value to $130,355, against $136,354 in 1907. It is estimated that there are not less than 5,000,000 caged birds in the United States. The ordinary house canary will eat 25 pounds of seed a year, which costs an average for each bird of $1.50. It will be seen that this luxury represents an outlay on the part of the American people of $7,500,000 annually for feed alone. In regard to the German exports to the United States, principally of Harz Mountain singers or breeders, one of the largest exporter of birds in Germany says in a letter to this consulate:

> I place the number of canary birds exported from Germany to the United States per year at 250,000. There are probably 5,000,000 caged birds in the United States. My firm exports yearly nearly 150,000 birds from this district; the number exported by other firms in the districts of Brunswick, Hamburg, and Bremen I estimate at about 100,000 birds. The average wholesale price for a male bird is 3 marks ($0.714) and for females 70 pfennigs ($0.17). While the American demand has increased, the cost price at home has risen, and it has been very difficult to raise the selling price in America. In proportion to other luxuries in the United States canaries are cheap, as they are usually bought by the poorer classes; on this account as soon as prices are raised there the demand immediately falls off. The financial stringency during the past year has had no appreciable effect on the demand for birds and holiday business was very good. It is a fortunate thing for the breeder that the birds do not live long in the United States. If this were not the case, our export would soon be at an end.
>
> I have observed that the proposition has been made on different occasions that the breeding of canaries in great quantities in the United States might be profitable, but in my judgment this would prove a failure. For breeding purposes Germany is the most favorable place perhaps in the world: especially is this so in the country where every farmer and workman has his small house, and for that reason has room to breed the birds. We buy from these people. Furthermore, German breeders as a rule are not too ambitious as to profits. A good deal of skill, luck, and care is absolutely necessary in order to be a successful breeder. The American would not be satisfied with the small profit arising from the breeding and, on the other hand, the demand would cease with the increase of prices.

LABOR WORLD.

HOMES FOR WORKINGMEN.

AUSTRIA-HUNGARY.

AID BY GOVERNMENT AND MANUFACTURERS IN DUAL MONARCHY.

Previous reference has been made in Consular and Trade Reports to the movement in Austria-Hungary to enable the poorer people to secure better domiciles. The following report from Consul Charles B. Harris, of Reichenberg, showing the progress being made, will therefore be of interest:

The question of providing suitable dwellings for the masses in Austria-Hungary, as in other countries, has received considerable attention, it having been found, after thorough investigation, that they are not properly housed. Just as elsewhere, this state of affairs is in close connection with the industrial development of the times and with the moving of a large part of the urban population from the country to the cities. Vienna, the largest city in the Empire, for example, between 1891 and 1900 increased its population by 31,000 people, half of whom came from other places. As a result of this condition the masses in Vienna are crowded in poor dwellings. According to the Vienna Yearbook of 1900, the families, which include 592,134 inhabitants, or 43 per cent of the whole population, live each in one room, exclusive of kitchen. Similar conditions are to be found in other Austrian cities, and rents paid by the toiling masses are exorbitantly high, at least when compared with the wages paid.

In Reichenberg, according to figures published for 1880–1890, one-third of the population lived in overcrowded dwellings. In the neighboring towns and villages, where most of the factories are located, 62 per cent of all houses contained but one room. In 57.7 per cent of these homes lived 3 to 5 persons, in 17.02 per cent 3 to 10 persons, and in 0.2 per cent 11 to 12 persons. According to the census of 1890, 57.5 per cent of the dwellings in Reichenberg and of 79.2 per cent in the suburbs were without kitchens. In these houses lived 48.7 per cent of the population of Reichenberg, and in the suburbs 76.2 per cent. According to the same statistics, in 17.02 per cent of the houses the inmates did their work at home, in this respect Reichenberg showing the highest figures of any city in the Monarchy.

THE NEW MOVEMENT.

According to the most reliable authority, conditions in this consular district, respecting the housing of the masses, have not materially changed since 1890. Lately, however, in other parts of Austria a strong movement has set in for the erection of suitable dwellings for the poorer classes. In the first place it is aimed to decentralize houses, so that they may be erected away as far as possible from crowded or manufacturing centers. Next it is desired to establish factories in the country, and build near-by good houses for the workmen. New building laws are planned establishing different requirements for houses erected near manufacturing than resident centers. It is now fully recognized that while formerly attention had been given to the mode of living at present few regulations exist as to proper living.

Finally it is aimed by social reformers in Austria to reduce the taxation on houses and offer special advantages to those erecting small dwellings for the working people. It is also proposed to amend the law, passed by the Austrian Parliament in July, 1902, encouraging the building of cheap dwellings. The law provides that all those erecting such buildings are exempt from certain forms of taxation, provided that such structures are built on empty lots, or on lots upon which houses have been torn down and are let for rent to workmen, or if the rent is included in their wages.

The same privilege is accorded to dwellings (family houses) sold to workmen under a system of partial payments; but the purchasing price, or at least half of the same, must be paid for in 15 annuities regardless whether or not the ownership in the building passes at once or later on into possession of the workmen. This law considers all such "workmen" who are employed in agricultural, industrial, and commercial pursuits, and earning the following amounts:

(*a*) Single persons earning $243.60; (*b*) families consisting of 2 to 4 heads, $365.40; (*c*) families of 5 and more, $487.20.

VIENNA PRIVILEGES—BUILDING REGULATIONS.

The workmen of Vienna are also included in the law, even if earning amounts one-fourth higher than the above sums. The same privilege is accorded to workmen in towns having over 50,000 inhabitants, with or without suburbs; connected industrial places, having together more than 50,000 people; or houses with whole or single parts devoted to public purposes, containing wash, dining, reading rooms, and library. Apprentices are treated like regular workmen.

The capital invested in these workmen's dwellings shall not yield more than one-half of 1 per cent above the usual rate produced by mortgages or similar securities. Buildings accorded the advantages of this law enjoy the same rights for a period of 50 years, and the builder is required within such time to keep the structure in condition according to requirements. All lots upon which workmen's dwellings are erected must be dry or artificially drained of water, and not located in places inundated, in the neighborhood of swamps, or polluted by decaying and rotten substances, endangering the public health.

Wherever local conditions make it possible, and where the location permits, the workmen's houses shall be provided with an open front, and the various buildings shall be apart. The cellars of the houses must be built 6 to 10 feet above subsoil water, and where such do not exist the underground must be 5.24 feet above water. The utilization of deep cellars for dwelling purposes is prohibited.

The floors of houses must be constructed of firm wood, "xylite" or similar material, and in southern regions of terra cotta or cement. Rooms in basements must have a height of 9.84 feet, and in houses more than four stories high at least 8.85 feet. All dwellings must be provided with windows which can be entirely opened, that fresh air may enter. The size of a window must be one-tenth of the ground floor. Where central heating is not possible, the rooms must contain tile stoves. The chimneys are not allowed connection with those of other dwellings, but should lead separately to the roof. Workmen's houses must contain a certain number of closets, with open windows, and be provided with proper ventilation. The closets should not be near living rooms or kitchens. Where there is no regular carting away of garbage, a short distance from the house a water-tight pit must be provided. Houses must be furnished with waterworks, and when the introduction of this convenience is impossible, cisterns or wells.

SMALL LODGINGS AND FLATS.

The advantages of the law are also extended to the homes for single people, sleeping, and lodging houses. Family houses can be inhabited by one or several families, but as a rule they shall not be more than three stories high and each story contain but 4 flats. All buildings in cities or connected communities intended for occupation by a larger number of families are to be provided with adequate stairs and separate adjoining rooms, such as wash kitchens, privies, cellars, and attics. These buildings must also devote every attention to hygienic and sanitary regulations and to personal safety. The renting of rooms to boarders or for sleeping purposes is prohibited in privileged workmen's houses.

Moreover, the advantages of the law are extended only to houses having the following space surface in all rooms: (*a*) One-room flats at least 108.19 square feet, and not more than 215.74 square feet; (*b*) two-room flats at least 215.28 square feet, and not more than 323.38 square feet; (*c*) three and more room flats at least 322.92 square feet, and not more than 861.120 square feet.

Single persons of both sexes must be quartered in special dwellings provided for each sex. Violations of the law are punished with fines up to $40, imposed on the owners of the houses.

THE REICHENBERG DISTRICT.

Not much has been done in Reichenberg to erect homes for the working people, with the exception of those built by leading manufacturers. One of the first to take steps in this direction was the manufacturer Baron von Liebieg, who built 10 workmen's houses at a cost of $17,255, exclusive of the cost of the real estate. As each house contains 8 flats, 80 families can be taken care of. Each flat consists of 1 room and an attic. An average number of 4 persons live in each flat. What Liebieg did as early as 1855, a private company, the Reichenberg Baugesellschaft, also attempted later. After buying real estate at a very reduced price from the city, the company erected 12 workmen's houses in a part of the city, the so-called "Sonnenberg." Eight of these houses contain 12, 11, and 4 flats, respectively, the greater number of which consist of apartments of 1 room and kitchen. At present the houses are inhabited by 526 people, or 3.75 on the average. However, with the building of these houses the company completed its work. Not being able to collect the rent from the poorer tenants, it leased the workmen's homes to a private owner, and is content to receive a rental that gives 3 per cent on the investment.

Two leading manufacturers of this district, Mandl, at Mastig, near Koenigenhof, and Richter, at Mildenau, are the first to have erected single cottages for their workmen. Each of these houses cost $1,015, and contain 2 rooms, kitchen, and 2 closets. The funds needed for the building of these houses are furnished partly by the firm, the workmen, and by a savings bank. The firm receives an interest of 3 per cent on the investment.

JUBILEE FUNDS—INSURANCE INSTITUTE BUILDINGS.

Ten years ago, in honor of the fiftieth jubilee of the Austrian Emperor, a special endowment fund was created for the building of workmen's houses, and since that time the organization having the matter in charge within that period spent $507,500 for the erection of dwellings for the working people, thereby aiding 4,000 families and about 2,000 persons. The organization in 1907 erected a new building with 550 beds, in honor of the sixtieth jubilee of the Austrian Emperor, which was celebrated last fall. To commemorate the same event the Bohemian Savings Bank in Prague appropriated $279,600 for the erection of workmen's dwellings in Prague, Aussig, and Komatau, and the Imperial Old Age Insurance and Accident Department for Upper Austria, Salzburg, the Tyrol, and the Vorarlberg allowed $60,000 for workmen's houses. The Vienna branch of the same department, in the twenty-first district of the imperial city, erected 12 houses, containing 201 apartments. Eight of these houses contain flats with 2 rooms and kitchen. The houses also have 3 stores, a room for a doctor, where treatment is given, library, and quarters for a fire department. The workmen's houses also contain 20 separate quarters for single people. Each room has an average size of 103.55 square feet, and a room for 2 persons 145.42 square feet. The rooms are rented at 60 cents a week, and those intended for two 50 cents for each person. These prices are inclusive of service and washing. The workmen's houses have room for 920 persons, and cost $159,537.

Similar workmen's houses have been built by the Insurance Institute of Graz, at Eggenberg. One house consists of a two-story building, containing 13 flats, consisting of room, cabinet, and kitchen; 39 flats have 1 room and kitchen; 26 have balconies. The average size of each room is 624.31 square feet, the smaller ones 452.08 square feet, and all are well ventilated. These rooms rent for $1.04 per 10.764 square feet a year. The investment in these workingmen's houses is $43,339.

The Salzburg Insurance Institute has erected workmen's houses at Kleinmuenchen, near Linz, and at Hallstein, near Salzburg, containing houses for 24 to 34 families, respectively. The institute was influenced to erect such homes because it found that owing to the building of factories in the mountains the number of private dwellings available decreased, their rates rose very high, and the working people were frequently compelled to occupy sheds and stables for living purposes.

HOUSES AT TRIESTE—GOVERNMENT STEPS.

Trieste has erected workingmen's houses, and charges for them a rental of 93 cents per 10.764 square feet a year for large and 64 cents for smaller homes. The prices charged for these dwellings are from 20 to 30 per cent lower than those asked for private flats. These dwellings are inhabited by 1,500 people.

In Budapest the Hungarian Government has built 400 houses for workmen on real estate obtained from the city at a very low price. These houses contain 192 flats; 79 have each 2 rooms and kitchen, and the others 1 room and kitchen. The rent of these flats is between $60.90 and $81.20 a year. The buildings were constructed at a cost of $203,000.

The Imperial Austrian Government is devoting special attention to the housing question, and in connection with the department of public works has established a special office for "housing welfare," not only intended for the masses, but also for state officials. Lately in the interest of its public servants it appropriated $812,000 for the building of homes, and a similar amount for houses for workmen employed in mines. The Government seeks to encourage "house building" by aiding building societies. Such an organization, partly under state control, has been established in Reichenberg, which with a period of 15 years has built up an entire section of this city.

BRAZIL.

FEDERAL DISTRICT WILL ERECT HOMES FOR WORKINGMEN.

Consul-General George E. Anderson, of Rio de Janeiro, writes as follows concerning the municipal tenant houses for the Brazilian capital city:

The efforts made by the government of the federal district of Rio de Janeiro to provide sufficient acceptable housing for its working classes, which led the municipality itself to construct a number of tenement houses a year ago, have led to the letting of a contract by the ministry of public works, in behalf of the federal district, to Señor Mario Roche for the construction of the necessary supply of houses, the number provided for being a minimum of 800 houses and a maximum number of 4,000 houses, the exact number to be determined as the enterprise proceeds. Four types of houses are to be constructed. One is to accommodate three persons and to be rented for $7.50 gold per month; the second to accommodate five persons at $13.50; the third to accommodate seven persons at $18, and the fourth to accommodate ten persons at $24. The contractor will be allowed entrance free of all duty for all material covering 15 years, exemption from local taxes for the same period, the power of condemnation of private property for the sites of such houses, and similar privileges. The full complement of houses of the two smaller classes must be completed within two years.

WAGE CONDITIONS ABROAD.

BELGIUM.

EFFORTS TO INCREASE WAGES, ESPECIALLY OF PAINTERS.

Consul H. Abert Johnson, writing from Liege, describes the efforts of some classes of workmen in Belgium to secure higher wages:

Up to the present time Belgium enjoyed special advantages, which enabled her to compete successfully with the leading industrial nations of the world, owing to the fact that employers in all lines of industry were able to obtain an adequate supply of workmen at salaries decidedly lower than those current in other industrial countries. According to the latest reports, however, this advantageous state of affairs is not destined to continue for an indefinite period in this country, as the marked increase in the cost of living that has been more or less general throughout the world has been especially exemplified in the case of Belgium.

Belgium has heretofore been classed as a low-priced country, and the low cost of living has been an element that has attracted to the country quite a large class of foreigners, who were enabled to live almost luxuriously on modest incomes that in other countries would have been barely sufficient to cover absolute necessities.

A marked increase in wages has lately been manifested in nearly all the lines of industrial activity, and further increases are undoubtedly destined to be accorded in the near future, as, with wages such as have been paid in the past, it is deemed impossible for a workman to house and feed an average family in an adequate manner, and in accordance with the standard of living prevailing among the working classes of this country.

EFFORTS OF PAINTERS.

A case in point that may be cited as illustrative of the tendency to demand increased wages, is the recent action taken by the union of house painters of this locality. After various isolated and futile attempts on the part of individual workmen to obtain from their employers an increase of wage, the union (Syndicat des Ouvriers Peintres) addressed an open letter to the population of this district and to the Association of Master Painters (Association des Patrons-Peintres). In this letter it stated that, in view of the unfortunate situation in which the house painters are placed, owing to insufficient wages and long periods of enforced idleness taking place during the winter, they decided to address the Association of Master Painters of Liege in order to set forth their grievances, and, in common, to endeavor to discover means for remedying the same.

The situation of the Liege house painters, it is asserted, is at present far from enviable, their wages being from 35 to 38 centimes (100 centimes=1 franc=19.3 cents) an hour, and in certain cases no more than 33 centimes an hour. The day's work varies throughout the year from 7 to 11 hours, depending upon the season. Working, therefore, for a period of 275 days, which is the average number possible during a year, taking into consideration holidays and periods of enforced idleness, at the rate of 36 and 38 centimes an hour, with an average day's work of 9 hours, a house painter is enabled to earn the sum of 891 francs in case of the former rate, and 940.5 francs in the case of the latter; that is, a sum of $171.96 to $181.52. This, of course, according to the American standard, seems almost ridiculous, but even taking into account the different scale of wages existing in Belgium, it is far below what could legitimately be claimed as necessary. On petition of the workmen's association in October, 1907, the city of Liege advanced the wages of the painters employed by the municipality to 45 centimes an hour.

The communication states that taking into consideration the present increased cost of the necessities of life for a family, say, of four persons (rent, food, clothes, heating, etc.), it is easily seen what an arduous struggle for existence such a workman's life must become, without taking into consideration the diseases that are known to be prevalent among workers in this trade, such as painter's colic, lead poisoning, etc., as well as the dangers from accidents to which painters are continually exposed in carrying on their work. It is also claimed that good house painters are every day becoming more difficult to find, as the best workers in the trade are abandoning this work in order to seek higher wages in other trades, in the hope of earning enough to sustain their families and to prevent their becoming objects of public charity.

The syndicate closes its letter by an urgent appeal to the population of this province to assist them in procuring a satisfactory solution of a problem of such vital interest both to themselves and to the community at large.

UNITED KINGDOM.

BRITISH WORK PEOPLE'S WAGES AND HOURS OF WORK.

Consul-General Robert J. Wynne, of London, reports that the Board of Trade inquiry into British work people's wages and hours of work in 1906 has resulted in the publication of a volume dealing with the textile trades. Additional volumes are promised later in regard to other industries.

The facts in the first volume, as summarized, show the following interesting figures: Textile workers in United Kingdom, 1,171,000, of whom 482,000 were men and 689,000 women. The total wages paid in 1906 amounted to over $240,000,000, or an average per head of $211.68. The average for men per week was $6.83, for women $3.75, for boys $2.53, and for girls $2.17.

The trades that pay men and women best are shown in the following table of average weekly wages:

	Men.	Women.		Men.	Women.
Cotton	$7.17	$4.54	Hosiery	$7.64	$3.47
Woolen	6.52	3.37	Linen	5.43	2.61
Lace	9.60	3.26	Jute	5.24	3.26

One-fifth of the men employed in the lace industry earn over $9.73 per week, and 13 per cent over $14.59. In cotton, 43 per cent earn between $4.86 and $7.29, and 21 per cent over $7.29. Large percentages in linen, jute, and hair industries earn below $4.86.

Of the women in the cotton trade, 35 per cent earn between $3.65 and $4.86, and 30 per cent between $4.86 and $6.08, but the majority of the women in the other industries earn below $3.65. Women have benefited most by the rise of wages in the 20 years between 1886 and 1906. In cotton the rise is 89 cents, and the average for all the textile industries 69 cents, or 22 per cent. The rise to men in the cotton trade is $1.28, and the average rise for all textile workers $1.13, or 20 per cent. Women jute workers have risen from $2.33 to $3.26, or a 40 per cent increase.

As 1886 was a year of depression and 1906 the opposite, the report places the real increase at about 10 per cent for men and 18 per cent for women. The working week has meantime been reduced by nearly 2 per cent.

The prosperity of the Lancashire spinners is shown by an average wage of $11.55 in Leigh, $11.43 in Manchester, $11.13 in Bolton, and $10.18 in Oldham. The Yorkshire average is $7.90.

GERMANY.

STANDARD RATES DOUBLED IN A THIRD OF CENTURY.

At the instance of the German Minister of Finance a very elaborate study has been made on the increase in the rate of wages throughout the Empire since its establishment. The following summary of the statistics has been prepared by Consul Thomas H. Norton, of Chemnitz:

From the vast mass of data collected, the following are tabulated as typical of the general upward movement during the past third of a century, a movement which has kept even pace with the marvelous expansion of the industrial output, and the growth of Germany's foreign commerce. The wages now prevalent are likewise of interest as important factors in connection with comparative studies on the cost of production.

Industries.	Wage rates.	
	1882.	1907.
Coal miners:		
Upper Silesia, per annum	$127.57	$268.94
Lower Silesia, per annum	146.37	257.04
Dortmund, per annum	201.82	445.30
Ore miners:		
Halle, per annum	169.93	296.79
Harz, per annum	157.56	221.82
Berlin.	1871.	1908.
Typesetters and pressmen, minimum per week	5.36	7.43
Truckmen, minimum per week	3.93	6.66
Masons, per hour	.065	.178
Masons, per day	.714	1.60
	1886.	1906.
Painters per hour	.093	.155
Painters, per day	.83	1.39
	1886.	1908.
Berlin—Continued.		
Fitters, per hour	$0.089	$0.155
Fitters, per day	.89	1.39
Fitters' helpers, per hour	.059	.113
Fitters' helpers, per day	.654	1.016
Stonecutters, per hour	.119	.202
Stonecutters, per day	1.071	1.62
Joiners, per hour	.08	.137
Joiners, per day	.714	1.19
Cabinetmakers, per hour	.071	.155
Cabinetmakers, per day	.69	1.49
Essen.		
Workmen in the Kruppestablishment, average per day	.72	1.27

FORMOSA.

INDUSTRIAL ACTIVITY CAUSES HIGHER WAGES.

Consul Carl F. Deichman, of Tamsui, reports that in consequence of the activity which prevails in construction work in Taihoku, the capital, and in Tamsui, and through the island of Formosa, especially in the southwestern part, in government irrigation works, building of sugar mills, cane tramways, agricultural enterprises, and engineering projects, the wages of skilled and unskilled labor have been steadily increasing, the cost of living increasing proportionately, so that wages in 1908 were higher than at any time since the Japanese occupation. The average rate of wages paid in Taihoku in 17 towns was 88 cents gold per day.

RUSSIAN MIGRATION.

ONLY A MOVEMENT FROM ONE PART OF THE EMPIRE TO ANOTHER.

Consul J. H. Grout, of Odessa, furnishes the following information concerning the migration from European to Asiatic Russia and the manner in which it is conducted:

Emigration to the natives of other countries of western Europe means the abandonment of their native countries in search of a better lot and existence in America, Australia, or Africa; to the native Russians it means only migrating across the Ural Mountains to the vast and unoccupied lands east of them. The returns for 1908 show that 758,812 of such settlers wended their way eastward, of whom, for various reasons, 121,204 returned, leaving a balance for Siberia and other parts of 637,608 persons. One can therefore easily realize the fact that Asiatic Russia will soon cease to be considered as " no-man's land."

It has been noticed that when some region of European Russia has been visited by a bad harvest the following season has given numerous migrants therefrom.

Inasmuch as the year 1908 gave a large area over which there was a poor harvest, it is to be anticipated that the year 1909 will see this movement eastward gain in intensity. In the Asiatic possessions of Russia there are wide tracts of land which can be made available for agriculture, cattle breeding, or sheep farming. There are also tracts which readily lend themselves to fruit growing, viticulture, etc., and farther north there are splendid forests that can be made the source of great wealth. Going to the several tracts of Asiatic Russia, the migrants do not do it fortuitously, but have a fixed plan. First of all they send out pioneers to visit the lands and to report thereon; the remainder then follow.

NUMBER OF PIONEERS FROM VARIOUS PROVINCES.

The Russians call these pioneers " khodoki,' and the migrants are mostly in direct proportion to the number of " khodoki " who precede them. It is interesting to note which provinces sent out the most of the latter. Not only does this particular consular district range very high, but of the provinces which enter into this district four head the list. Probably as much as 65 or 70 per cent of the inhabitants of this district must be classed as " Little Russians," a peculiar race of Slavs who, after the " Great Russians," are the most numerous, and who for centuries past have formed the outposts of the Slav world in its advance on the receding Tartars. They are apt to retain much of their peculiarities, so that in the course of time something like a " Little Russia " may be created east of the Urals. The actual numbers of " khodoki," or pioneers, sent out by the various provinces were as follows: Kursk, 7,000; Chernigov, 6,000; Poltava, 5,000; Kiev,

4,000; Voronezh, 4,000; Kharkov, 4,000; Viatka, 3,000; Orel, 3,000; Samara, 3,000; Mogilev, 2,500; Saratov, 2,500; Ekaterinoslav, 2,000; Tambov, 2,000; Kostroma, 2,000; Smolensk, 2,000; Vitebsk, 1,500; Taurida, 1,500; Kaluga, 1,500; Podolia, 1,500; Kherson, 1,500; Volhynia, 1,250; Simbirsk, 1,250; Penza, 1,250; Kazan, 1,000; Minsk, 1,000; Perm, 900; Don Territory, 800; Ufa, 600; Vologda, 500; Riazan, 400; Bessarabia, 400; Kuban Territory, 300; Orenburg, 300; Grodno, 200; total pioneers, 69,650.

COMPULSORY ACCIDENT INSURANCE.

THE NORWEGIAN LAW PROVIDES A GOOD PENSION SYSTEM.

Consul B. M. Rasmusen, of Stavanger, describes last year's operations of the Norwegian compulsory accident insurance law:

The law was enacted by the Storthing July 24, 1894, and prescribes that all factories shall provide accident insurance for their employees, and failure to comply therewith is punishable by fine.

There are 242 establishments in the city of Stavanger subject to the provisions of this law, and the number of casualties during the year 1908 was 146, against 145 in 1907 and 116 in 1906. The total amount of premiums paid in 1908 was $15,116; the benefits received aggregated $8,917; leaving a net balance of $6,199 in the national fund. There are at the present time 187 persons receiving benefits in the shape of monthly pensions from the city of Stavanger, of which 11 are widows, 15 minors, and 161 persons of both sexes whose earning ability has been either partly or wholly destroyed. The distribution of pensions between the several classes was as follows: Widows, $180; minors, $486; persons injured while at work, $5,248; and hospital and care for injured, $2,703.

Accident insurance is gradually gaining in favor with both employers and employees, though the former are strongly opposed to the payment of indemnity and for medical services to the injured the first four weeks, as the law requires. The law gives general satisfaction, and its operation has caused no sacrifice worth mentioning; on the contrary, it has promoted a more intelligent understanding of one's responsibilities.

LAWS AND ECONOMICS.

PUBLIC UTILITIES.

FRANCE.

GAS, ELECTRICITY, AND STREET RAILWAYS IN BORDEAUX.

In reply to a communication from the secretary of the Public Service Commission of New York, Consul D. J. Murphy, of Bordeaux, furnishes the following information concerning the public service of that French port:

The municipality conceded to the Compagnie Générale d'Eclairage de Bordeaux the exclusive right to furnish the gas and electric lighting of the city for thirty years, commencing July, 1904, with privilege of renewal. The agreement provides that the price of gas should not exceed 16 centimes per cubic meter (3.09 cents per 35.316 cubic feet) to industrial concerns and 17 centimes (3.28 cents) to private establishments. For gas consumed by the city in the lighting of public buildings, gardens, streets, etc., not more than 8 centimes (1.54 cents) per cubic meter may be charged. The company is permitted to use coke, coal, oil, or other material from which good gas may be made. The lighting capacity must be such that under a pressure of 3 millimeters of water 105 liters of gas should give a light equal to that obtained from a Cardel lamp burning 42 grams of pure colza oil per ton. The testing apparatus must be furnished by the company, the city reserving the right to make daily tests at its discretion. The old city plant was turned over to the company, but it was provided that all changes and improvements must be at the latter's expense.

ELECTRIC SERVICE.

For electric lighting the company may use such systems and modes of distribution as it may see fit, at its risk and peril. Before tearing up the streets, whether gas pipes or electric wires are to be put underground, permission must be obtained from the city; the work to be done so that the streets shall be put in the same condition as before, and within the briefest possible time. For electric lighting the company can not charge more than 7 centimes (1.35 cents) the hectowatt hour for private establishments and 4 centimes (0.77 cent) for manufacturing concerns. For rental and repair the charges range from 1.25 francs (24.1 cents) for the former and 25 centimes (4.82 cents) for the latter, for a meter of 300 watts caliber, up to 3.25 francs (62.72 cents) for rental and 2.25 francs (43.42 cents) for repair for 25,000 watts, above which figure the price must be settled by special agreement. All meters furnished by the company must be provided with a turn-off, so that the consumer may shut off the current at his pleasure.

The company pays into the city treasury each year during the life of the concession the sum of 400,000 francs ($77,200), and it has on deposit in the city treasury a forfeit of $100,000 for faithful performance of the contract. The holdings of the company, including gas and electric plants, etc., are worth at this time close to $5,000,000.

STREET RAILWAY SERVICE.

A 40-year concession has been given the Compagnie Française des Tramways Electriques et Omnibus de Bordeaux, ending December 31, 1941, with privilege of renewal. This concession was granted by the French Government, which exercises exclusive control in the matter of street railways. There are in Bordeaux 12 lines of electric trams and 1 omnibus line. Both underground and overhead wires are used. The company pays annually into the treasury of the city 410,000 francs ($79,130). The tracks must be kept in good condition, the streets must be watered for a certain distance on each side the center of the line. If snow falls in winter (an unusual occurrence here), sufficient salt may be used to melt it.

The fare on all city lines is fixed at 10 centimes (1.93 cents) for single fare, and 15 centimes (2.9 cents) for return ticket, children under 5 years being carried free. Packages, provided they are not large enough to be an inconvenience and do not weigh more than 20 pounds, may be carried by passengers. Working people may ride one way at the rate of 5 centimes (1 cent) every morning from 5 to 6 o'clock in summer and from 6 to 7 in winter, and in the evenings from 6 to 7 all the year round. Monthly tickets costing 15 francs ($2.90) are sold, the holder riding as many times as he pleases. At certain hours, special cars, well appointed, are attached to the regular cars, the fare being doubled. No one is permitted to stand inside the cars, but the platforms accommodate 10 persons on the rear and 8 on the front. Letter carriers, municipal officers, firemen, policemen, and octroi agents, in uniform, may ride free.

The director and all employees must be native Frenchmen, and all material, cars, engines, rails, etc., must be of French manufacture. The company, however, is permitted to use the Thomson-Houston system.

Conductors and workmen are paid not less than 4 francs (77.2 cents per day; motormen and all other employees, 5 francs (95.6 cents) per day. Each employee must be given a day's rest at half pay after 60 hours of effective but not consecutive work. On the principal lines there are 160 trips per day, the cars running from 5 a. m. to midnight.

UNITED KINGDOM.

SUCCESS OF MANCHESTER'S CITY GAS PLANT.

Consul Church Howe advises that an interesting return has just been prepared by the authorities of Manchester comparing the statistics of the gas department for the year 1908 and for the year 1883—25 years ago—and the figures show the great development of the undertaking. The progress made by this British municipal undertaking is thus outlined:

The total amount of profits to the city in that time have been $6,750,307, and altogether since the works were taken over by the corporation in 1844, the total amount reaches $13,911,304.

The capital employed has increased in round figures from $6,083,125 to $13,382,875, but the capital charge per million feet of gas is materially less or $2,414 against $2,628. The prosperity of the department is well illustrated by the fact that despite the many additional burdens which the undertaking has been called upon to bear, the percentage of expenditure against income has increased by the nominal figure of 2.95 per cent. The producing capacity of the works is 26,900,000 cubic feet per 24 hours against 13,000,000 in 1883, and the storage capacity is 34,500,000 as against 14,000,000.

The Manchester corporation has also provided, free of charge, gas stoves to all householders making a request for the same. This has enormously increased the "day load" of the works; for, while the total consumption has increased by 124.6 per cent, the day time consumption has increased by less than 227.5 per cent. It is stated that gas stoves and automatic meters consume about 20 per cent of the total output.

At present the price of gas in the Manchester district is 55 cents per 1,000 cubic feet. A movement is already on foot for a reduction of gas to 49 cents per 1,000 cubic feet for sundry manufacturing purposes, and the corporation says that with a graduated reduction for ordinary purposes, which would be accomplished with a minimum of disturbance to the finances of the gas department, a steady and increasing demand, with corresponding reductions in the cost of manufacture, distribution, and management, would naturally follow.

BRITISH HONDURAS.

PUBLIC WORKS APPROPRIATIONS FOR DEVELOPMENT PURPOSES.

Consul W. L. Avery sends from Belize the following announcement of public works to be carried out in British Honduras and the probable opening thus provided for American supplies of various kinds:

The estimates recently passed by the Legislative Council for the fiscal year ending March 31, 1910, carry a total appropriation of $141,865 for "Public works extraordinary," and the following items suggest an opening for the sale of American machinery, lumber, and tools necessary and suitable for clearing rivers, dredging sand bars, making roads, and erecting public buildings.

The amounts (in American currency) voted are $1,000 for road-making tools, $6,000 for telephone to El Cayo, $23,350 for suction dredger and equipment, $6,750 for motor boat and three hopper barges, and $125 for two bicycles. A large quantity of lumber will, of course, be needed.

There is a great probability that a Priestman dredger (English) will be purchased, yet American manufacturers of machinery might take up the matter with the Colonial Secretary and possibly secure the order. In all other lines it is advisable to communicate directly with Mr. J. P. Auld, Director of Public Works, or with Hon. Wilfred Collet, Colonial Secretary, Belize.

Estimates were also passed for the erection of the following bridges over the streams named: Teakettle Creek, $2,750; Roaring Creek, $4,250; Nancy Porter Creek, $2,300; Black Creek, $2,500; and a loan not to exceed $486,000 was authorized for the extension and completion of the Stann Creek Railway. The financial statement of British Honduras for the coming year is estimated as follows:

Surplus, April, 1909	$307,517	Expenditures, 1909–10	$526,297
Revenue, 1908-9	383,740	Estimated surplus, 1909–10	164,960
	691,257		691,257

MEXICO.

THE GOVERNMENT REPORTED TO HAVE POLICY OF ABSORPTION.

The Mexican Daily Herald makes the following announcement of the probable plans of the Government of Mexico in taking control of public utilities:

A well-substantiated report is current that the Federal Government is contemplating taking over the Tramways Company and the Mexico Light and Power Company and operating them under government control. It is understood that the Government would want probably 51 per cent of the stock, under which circumstances the holders of the other 49 per cent would feel reasonably certain of good profits.

A New York banker, representing the Berlin interests, has been here for more than a week and has just returned home, after looking into the possibilities of securing from the Mexican Government a concession for a large light and power concern which was intended to supply light and power not only to the City of Mexico, but to other towns and cities of the country as well as and at the same time to secure control of a large number of similar concerns in the United States, forming of the whole a trust. He was told that no concession would be given and that it would be useless to ask one. It is said that he was told that the Federal Government is now looking into the practicability of taking over at least 51 per cent of the stock of the two companies and operating them as the National Railways of Mexico are now operated.

According to the reports, the project of the Government is aimed directly at securing the public utilities for the sole purpose of benefiting the public at large and to create the most efficient service. President Diaz is said to favor the accomplishment of the idea, as it would carry out more completely his belief in public ownership and give the country the chance to at once forge ahead of all others in the important work already begun. It would enable Mexico to carry the problem of government control of public utilities to the stage never contemplated by any other government in the world.

ITALIAN BOILER REQUIREMENTS.

LAWS AND REGULATIONS GOVERNING THEIR CONSTRUCTION AND USE.

Consul Albert H. Michelson, of Turin, furnishes the following report for the information of American manufacturers concerning the laws and regulations of Italy governing the construction and use of boilers:

The attention of American manufacturers of stationary and portable boilers, locomotives, locomobiles, steam rollers, steam automobiles, steam agricultural machinery, house-heating boilers, retorts, stills and condensers, and accessories and parts of all these, is drawn to the requirements in force in Italy governing the construction and use of boilers of all classes, which are rigidly enforced and must be most carefully observed.

The following abstracts from these laws and regulations cover their principal requirements, as far as American manufacturers are concerned:

Every new or rebuilt boiler must be officially inspected and tested before use; every boiler must be inspected not less than once in four years, and every boiler for a steam engine must be in charge of a duly qualified person.

All receptacles used for changing liquids into vapor at a pressure greater than atmospheric pressure, and all receptacles containing vapor at a pressure greater than atmospheric pressure, shall be deemed steam boilers.

CONSTRUCTION OF BOILERS.

The use of cast iron or sheet brass for parts exposed to fire is prohibited. Exception is made for brass tubes less than 10 centimeters (3.94 inches) in diameter, and for cast-iron parts less than 25 centimeters (9.84 inches) in diameter if cylindrical in form, and less than 30 centimeters (11.81 inches) in diameter if spherical in form.

The use of cast iron is permitted for steam domes, boiler heads, covers for manholes, cleaning holes and mud collectors for economizers, and for parts of other similar contrivances; provided, however, that these are not inclosed in masonry nor in contact with fire, and that they are not greater than 70 centimeters (27.56 inches) in diameter.

SAFETY VALVES.

Every boiler shall be fitted with at least two safety valves charged in such a way as to permit the steam to escape as soon as the maximum effective pressure shall have been reached.

In stationary and semistationary boilers the valves shall be charged by a weight applied either directly or at the end of a lever. The weight and the length of the arms of the lever, as fixed by official test, shall not for any reason be increased by the person using the boiler, or by any person dependent upon him.

In portable boilers, boilers for launches, and in reversible and balancing receptacles the valves may be charged by direct-acting springs or by spring balances applied to the ends of levers. In this case, however, the springs shall be of such sensibility that when the normal pressure increases one-tenth each spring, acting by itself, shall permit the escape of all the steam produced. The stroke of the spring balance, fixed by official test, shall be made invariable by appropriate means.

PRESSURE GAGES.

Every boiler shall be fitted with a good pressure gage, conveniently placed and within easy reach of the fireman, graduated in kilograms, upon which shall be well and visibly marked the maximum effective pressure that the steam may not exceed.

In boilers used to produce steam at an effective pressure not greater than one-half a kilogram (1.10 pounds) per 1 square centimeter (0.155 square inch), an open tube, with a minimum internal diameter of 80 millimeters (3.15 inches) and a maximum height of 5 meters (16.40 feet) above the level of the water in the boiler, may be substituted for safety valves and pressure gage.

Every boiler shall, further, be fitted with a suitable connection for attaching a controlling pressure gage. The extremity of this connection shall be provided with a flat circular disk, 40 millimeters (1.576 inches) in diameter and 5 millimeters (0.197 inch) thick.

FEEDERS AND STEAM MAINS.

Every boiler shall be fitted with two independent feeding contrivances, each equally able to supply in abundance the water required, and shall be provided with automatic check valves placed at the entrance of the feed pipes into the boiler. For portable boilers, however, one feeding apparatus may suffice, if upon inspection it appears exceedingly difficult to attach two appliances.

For a series of intercommunicating boilers two feeding appliances may be deemed sufficient, provided that they are independent of each other and that each is equally able to supply in abundance the water required for all the boilers.

It shall be possible, when a number of boilers furnish steam to one and the same steam main, to disconnect any one boiler from the others, whether as to feeders or outflow.

WATER GAGES.

Every boiler must have not less than two gages for determining the level of water, one of which shall be in the form of a glass tube. The gages shall be in direct communication with the interior of the boiler and shall be independent each from each. The said gages may be mounted on one and the same cylindrical body, provided that this and the pipes which connect it with the boiler shall have a free cross section of not less than 60 square centimeters (9.30

square inches). The glass-tube gage shall be so placed as to be easily cleaned and replaced.

The gages shall be marked with a fixed and visible sign showing the minimum level that the water in the boiler may reach.

For stationary boilers the minimum level mentioned in the preceding article shall be 8 centimeters (3.15 inches) above the upper line of the fire flues and shall be indicated by a clearly visible line marked on the outside of the boiler.

For portable boilers the minimum level shall be fixed with due regard to possible oscillation and to the necessity that the fire flues never remain uncovered by water.

The provisions of the preceding article do not apply to those flues in which the overheating of parts in contact with steam is not to be feared.

House-heating boilers need not be inspected in accordance with the regulations of August 17, 1907, if they comply with the following conditions: (*a*) That they be built of sheet iron or mild steel; (*b*) that their interior be in direct and continuous communication with the air by means of an open tube accessible and visible throughout its length, in order that continuous and immediate supervision may be exercised; (*c*) that the said tube have an internal diameter of not less than 80 millimeters (3.15 inches) and a height of not more than 3 meters (9.84 feet) above the normal level of the water in the boiler.

[The original Italian texts of the laws and regulations cited in this report are on file in the Bureau of Manufactures.]

FOREIGN INCORPORATION LAWS.

RUSSIA.

ALL COMPANIES MUST SECURE APPROVAL OF THE MINISTRY.

Consul James W. Ragsdale, of St. Petersburg, forwards the following report on the regulations governing the establishment and conduct of business and financial institutions in Russia:

There are no special laws relating to corporations in Russia. Every business or financial company desiring to transact business in this country is compelled to present a scheme of its charter to the council of ministers, who, after discussion, may approve or reject it. In case of approval it receives the confirmation of the Emperor and is then considered as a concession granted by the Government. Every charter so presented must contain and cover the following points: The object for which the company is to be organized; the amount of capital in stock and bonds required, and the amount of each share and bond; the rights and duties of stock and bond holders; the system of management, rights, and duties of directors and board of managers; bookkeeping, division of net earnings, and payment of dividends; general meetings of stockholders; settlement of legal disputes; legal responsibility of the company, and termination of its operation.

After the proposed charter has been approved by the council of ministers, received the signature of the Emperor, and been published in full in the official journals, a certain portion of the stock, usually one-third, must be paid in by the subscribers and deposited in the Imperial Bank within six months from the time of such confirmation. The balance of the stock must be paid in within a term not exceeding two years.

COMPANIES BEGINNING OPERATIONS—CLOSING UP BUSINESS.

When the deposit of one-third of the stock has been made the company has the right to begin its operations and the board of directors can withdraw such deposit from the bank. If this requirement should not be complied with within the specified term, the board of managers or founders of the company must ask for a prolongation of time, which is usually granted. Such prolongation, however, is not limitless and is refused after a reasonable time, when the charter is annulled and the subscribers' money must be returned to them. So also if the balance of the stock has not been fully paid in during the given time of two years, the company must liquidate its business, the same as above.

After the capital stock has been paid in full the company has the right to issue bonds, the amount of which must be stipulated in accordance with the needs of the operating capital and must be approved by the council of ministers. In order to secure the payment of the interest on the bonds the company is required to keep its property free from incumbrance and to keep a reserve fund, consisting of a percentage deducted annually from the net earnings of the company, and these obligations take precedence over all other engagements of the company.

The term of life of the charter is not always provided for, being left to the founders of the company; if, however, two-fifths of the capital has been lost and such loss has not been replaced within one year from the day of adopting the annual report by the stockholders at their general meeting, the company is required to discontinue its operations and liquidate its business by causing a publication to that effect in the newspapers. The liquidation is placed in the hands of a committee consisting of not less than three persons, who must be stockholders. This committee must be confirmed by the ministers of the interior and of trade and industry, to whom it is responsible for conducting the liquidation in a proper and legal way.

The same regulations refer to financial corporations doing business in Russia. Public-service corporations receive their concessions from the local municipal boards and are confirmed by the minister of the interior.

BANKING OPERATIONS.

The banks are taxed on their profits before any sums are charged off for reserves, percentage for managers and directors, or dividends, as follows:

On profits less than 3 per cent of the invested capital no taxes are imposed. On profits of 3 to 4 per cent a tax of 3 per cent is levied, and for an increase of 1 per cent in profits, one-half per cent is added to the rate of taxation. On profits exceeding 10 per cent, 6 per cent of the total profit is paid, plus 5 per cent on the sum exceeding 10 per cent.

The Government reserves the right to inspect banks, but seldom exercises the same. Monthly reports of the condition of banks are published. Laws permit loans on real estate as collateral, but banks do not usually take advantage of the privilege. Only the Imperial Bank issues notes. The branch bank system is expanding. Unincorporated banks are allowed and are subject to government inspection. Paper "warnings" are accepted as long as nine months. Maximum rate of interest is 12 per cent, but varies. Banks pay from 2 to 4 per cent interest on deposits.

On January 1, 1907, there were in all 6,679 savings banks in Russia, and 110 banks have been opened during the year 1907. The total sum of money deposited in these savings banks January 1, 1907, was 1,035,000,000 rubles. This sum was increased during the year so that on January 1, 1908, there were on deposit 1,149,200,000 rubles (ruble=51.5 cents).

The money deposited is invested in government papers bearing interest, municipal, real estate, and railroad securities. The financial operations of the savings banks in 1907 resulted in a net benefit of 4,200,000 rubles, which was turned over to the reserve stock, amounting on January 1, 1908, to 30,400,000 rubles.

All savings banks are authorized either by the Government or by municipalities. Large factories may have savings banks of their own, if provision therefor was made by their charters and approved by the ministers of finance and of the interior. In order to establish a private bank in Russia the permit of the Minister of Finance must be obtained and the charter be presented for his sanction.

UNITED KINGDOM.

SAFEGUARDS FOR INVESTORS—MANIPULATION IS PREVENTED.

In answer to an Indiana inquiry requesting information as to the efficiency of the present system of corporation law in England, and also as to whether or not stock manipulation, overcapitalization, etc., exists to any extent under the English system, Consul John L. Griffiths, of Liverpool, replies as follows:

Generally speaking, there is very little stock manipulation or overcapitalization of companies in this country. The sporadic attempts at stock manipulation in England have uniformly been visited with disaster, and those who have attempted to engineer them have, as a rule, been criminally punished where the slightest element of fraud was involved. In recent years there have been several instances of overcapitalization in this country, but the dividend sheets have proved so unsatisfactory that further efforts in the same direction have been greatly discouraged. The reason why stock manipulation and overcapitalization can never obtain to any great extent in this country is because of the fact that the Companies' Acts, under which registration of these public companies is made, contain innumerable safeguards for the safety of the investing public.

The first act of great importance for the registration of companies in this country was that of 1862. Under this promoters of companies were made directly responsible to the investors for any misstatements which might appear in the prospectus inviting subscriptions, enabling a subscriber for shares to pick out from such prospectus statements which were proved to be incorrect and which should never have been made, so that unless such statements were backed up by the evidence of some expert of known position and rectitude the promoter, and with him the directors, was liable to be mulcted in damages. From 1862 down to the latest act of 1907 clauses from time to time have appeared in the supplemental acts, all making for the safety of the investing public, the tendency of legislation always leaning toward the protection of the public, as against promoters publishing faith-alluring prospectuses.

RESPONSIBILITY OF DIRECTORS—STRICT MEASURES.

It would be an impossibility for anyone—at any rate, at the present moment—to think of manipulating the stock of a railway company, for example. Any such manipulation would have to be done with the concurrence of the board. In this country every member of the board is equally responsible, and a clique on a board could not carry out any ulterior design not known to the whole of the directors. Another point is that in this country no prospectus is issued or company promoted for the carrying out of any project but that it is, so to speak, under the very eye of the investor, and a railway train in a few hours will carry him to a particular point where he can obtain all information.

The main reason why stock manipulation and overcapitalization are practiced so little in Great Britain is the strict measures which have been taken by Parliament for the protection of the British public. The fact that anyone who issues a prospectus is absolutely responsible for the statements it contains tends to check the exuberance of language and the play of fancy. This is a safeguard, for the reason that directors are men of wealth and high standing in their respective communities, and such men are not inclined to make reckless statements which carry with them financial liability. There has been a tendency in the last few years for amalgamations—that is to say, for insurance companies, banks, etc., to combine—but this is a very different matter from overcapitalization. The pleas urged for these amalgamations are the same as in the United States, viz, greater economy in management and greater security to the public through increased financial resources.

NEW INVENTIONS.

GERMANY.

RIVETING MACHINE WHICH COMBINES ELECTRICITY AND HYDRAULICS.

Consul Thomas H. Norton, of Chemnitz, writes that German machine constructors have shown much interest in the introduction of a new type of riveting machine, combining electric and hydraulic features, which he thus describes:

Of the various mechanical contrivances to replace the human riveter, the hydraulic devices have thus far yielded the most satisfaction. Their use is unaccompanied by jars and shocks, and the riveting done meets the most rigid demands. Similar results are, also, in many cases, secured by the electric riveters. The hydraulic method labors, however, under the serious disadvantage of requiring an exceedingly expensive plant. Pneumatic riveting is handicapped by the same economic drawback. Electric riveting on the contrary, while frequently inadequate, has the very pronounced advantage of involving simple mechanism, and is run at slight cost.

These considerations have led to the invention by a prominent machine firm at Oerlikon of a compound riveter, combining the mechanical advantages of hydraulic riveting and the economy of electrical motive power. It weighs 2,750 pounds, is easily transportable, and is so arranged as to be suspended from above at any desired height and to operate horizontally or vertically. [Plans forwarded by the consul will be loaned to American firms who address the Bureau of Manufactures.]

The frame is of cast steel. Plates can be introduced to a depth of 27.7 inches. The motor employed is of 5 horsepower. It uses an

alternating current of 240 volts, and makes 1,400 revolutions per minute. The hydraulic piston moves downward at the rate of 16.5 inches per minute, and upward at the rate of 71 inches. The maximum diameter of rivets which can be employed with this device is 0.9 inch, or 23 millimeters. When the motor is once in movement the action of the riveter is controlled by a small lever, and responds promptly and exactly to the slightest alteration in its position. The hydraulic pressure can be instantly lessened, increased, or reversed, and the maximum pressure can be indefinitely maintained, at the will of the operator.

The whole apparatus is devised with great ingenuity to replace effectively the employment of the skilled human arm in a mechanical operation of fundamental importance.

NEW BURGLAR ALARM.

SIMPLE APPLIANCE UTILIZES WINDOW AND DOORWAY CURTAINS.

Deputy-Consul-General Ulysses J. Bywater reports that a Dresden engineer has invented a simple appliance for giving warning of attempted burglary or forcible entry into premises, which is thus described by the consular officer:

This appliance has been thoroughly tested by the police authorities of Dresden and Berlin, and the most experienced criminal experts were unable to find flaws in the apparatus, or to enter into the protected premises without starting the alarm. The appliance itself is very simple, consisting of a curtain or portière, wired with fine conductors. At certain places on the curtain are affixed small metal knobs, which are connected with the wire conductors. The curtain is then drawn across the window or door, or around the safe, and the slightest disturbance of this position immediately breaks the circuit, as the metal knobs are thrown out of contact with each other.

Should the burglar notice the wires and cut one or several thereof, the breaking of the circuit would also start the alarm. Any other attempt to destroy the protecting curtain would also be noticed. Any curtain, unless made of fire-proof material, would also act as a fire alarm. The alarm itself may consist of a series of bells, lights, or other electrical appliances. This invention can be used to protect doors, windows, safes, etc., and naturally the curtains, forming the most conspicuous part of the device, can be designed and arranged to suit individual taste. The inventor recently gave the writer an exhibition of the working of the apparatus, and the impression was that this invention is unique in simplicity and reliance.

ENGLAND.

NON-EXPLOSIVE SAFETY DEVICE FOR OIL TANKS.

Consul John L. Griffiths reviews some interesting and fruitful experiments recently conducted in Liverpool to demonstrate the advantages of a preventive device to preclude the possibility of explosions in oil tanks:

This device, which is extremely simple, is constructed on the principle of the miner's lamp, so that when the flame is surrounded by a good conductor the heat is carried off as rapidly as generated and the temperature falls below that necessary for the combustion of the gases to continue on the side of the conductor remote from the flame. Although the vapor which arises from the petrol within a tank may be ignited at the mouth of the filling socket, yet if that socket has a fine gauze partition which is provided for inside the safety device, the gases within the tank can not be ignited. The gauze is protected by perforated metal shields. The device is placed inside the tank, and the cap which is screwed on to the filling hole is fitted with a small safety plug; this is fixed into the socket by means of soft solder, which, if the tank should become heated by fire in its vicinity, speedily melts, and bursting, it releases the internal pressure, and thereby renders an explosion impossible.

The demonstrations made in Liverpool were very satisfactory. In the first test a bonfire of wood and shavings saturated with petroleum was lighted under a steel drum containing 13 gallons of petroleum spirit. The tank was fitted with the safety device. A strong breeze was blowing at the time, and the fire burned with great rapidity. After three or four minutes the safety plug shot into the air and there was a jet of flame from the escaping vapor, but no possible danger of an explosion.

FURTHER TESTS AND ADOPTION IN EUROPE.

The second test was a comparative one. Two steel drums, each filled with 3 gallons of petroleum spirit, were placed side by side on supports. One of the tanks was sealed with a solid brass screw cap, while the other was provided with the safety device. The fire was then generated, and in a very few minutes the safety plug blew out as before. Immediately following this, a loud explosion took place from the unprotected drum, the released petroleum blazing over a radius of 15 or 20 yards around where the drum was placed. The protected drum was carried a distance of 10 or 12 yards by the force of the explosion, but was not at all damaged, while the unprotected drum was carried through the air a distance of 130 yards, and the end of the drum was completely blown out. The fusing point of the safety tank was 157°.

The use of this Snercold safety device is said to be compulsory in Germany, Austria, and Hungary. It has also been adopted by several English municipal corporations, and the chief of the London fire brigade requires the device to be fitted to all vessels used for the storing of petrol, whether in the fire stations or in motor vehicles and engines. In a number of instances, as a result of the adoption of this device by municipalities, the restrictions as to explosives in the corporation by-laws have been modified, and it is claimed that insurance companies have offered considerable reductions in fire premiums where it is employed.

The device can be applied not only to tanks, but also to oil-carrying steamers. It is suggested that the owners of motor garages through the use of this safety device will be enabled to store a large quantity of petroleum spirit on their premises and thus secure it at a lower cost than when it has to be purchased in small quantities. It is also serviceable for motor boats and all vehicles using petroleum for power. [The name and address of the company operating the patent safety device is on record at the Bureau of Manufactures.]

BRITISH SOUTH AFRICA.

INGENIOUS APPARATUS SAID TO INCREASE VALUE OF WINDMILLS.

Consul-General Julius G. Lay, of Cape Town, reports as follows concerning a South African invention which, it is claimed, largely increases the working value of windmills:

In this country, where the use of windmills is becoming more general among farmers, any improvement in wind machines finds a ready sale. The latest of such improvements is the Malcomess multiplicator, a simple and ingenious apparatus invented and designed in Cape Colony, which can be used in connection with any windmill pumping plant, being easily attached to the standpipe of any windmill. It consists of two toothed pinions which move up and down on toothed racks attached to a neatly but strongly designed frame. It is strongly made throughout, takes up little room, and requires little attention, being fitted with efficient lubricators.

The two pinions are carried in a bracket attached to the connecting rod of the windmill. The center rack is attached to the pump rod, while the side tracks are fastened with the main frame of the apparatus to the standpipe, so that when in operation the pump rod travels twice the distance of the windmill connecting rod, therefore, for instance, on an 8-foot windmill having an 8-inch stroke the pump rod would have a 16-inch stroke.

It is claimed for the Multiplicator that by putting in a sufficiently long cylinder double the quantity of water per stroke is supplied, and as the windmill would make the same number of strokes with or without the Multiplicator double the quantity of water is delivered.

WHAT IS CLAIMED FOR THE INVENTION.

In a 6-inch bore hole it is not possible to place a larger cylinder than 5½ inches in diameter. This with a 14-foot American windmill having a 14-inch stroke would give approximately 1,200 gallons of water per hour, but by fitting a Multiplicator to this windmill it would give a 28-inch stroke; therefore, a 5½-inch diameter cylinder would deliver approximately 2,400 gallons of water per hour from a depth not exceeding 60 feet. This capacity is equal to that of a 7-inch irrigation cylinder, for which it would be necessary to sink a dry well 40 feet deep. The usual practice is to sink a dry well to within suction distances of the water and use a large diameter cylinder in this well. By using the Multiplicator, it is claimed, the necessity for these expensive dry wells is done away with.

As bore holes continue to be put down, the underground water level is receding, and in many cases all over South Africa windmill plants over dry wells are ceasing to operate. Some means of putting the working cylinder nearer the source of water supply must be devised; to deepen the dry well would be expensive, but by using the Multiplicator, the cylinder can be placed where the water was originally struck in the bore hole, and a supply of water pumped up which would be impossible by any other means.

The writer has recently seen this Multiplicator attached to an American windmill in operation at the Rosebank Agricultural Show, under very favorable wind conditions, but it was not pumping water from a bore hole. How the Multiplicator would work under, for instance, a 140-foot load in a light wind, remains to be seen, but the patentees intend to subject it to a bore-hole test at the show at Port Elizabeth, Cape Colony, and perhaps they will demonstrate there the efficiency of this apparatus under normal conditions. [Two illustrations of the Multiplicator are on file in the Bureau of Manufactures.]

ITALY.

VALUABLE SWITCHING DEVICE FOR ELECTRIC TRAM CARS.

Consul Jerome A. Quay, of Florence, writes that Dante Bechi and Galileo Serafini, two mechanics of that Italian city, have lately invented a very useful apparatus for use on electric tram cars by means of which rail switches may be shifted to any point desired without stopping the car.

This electric mechanical switch consists of a box containing an electrical apparatus hermetically closed, from which two wires start and are connected with an upper contact. Inside the trolley there are two invisible contacts, which, through two wires, lead to two communicators placed on the platform. The switch needle under the manipulation of the driver is brought in contact with the trolley wire some 10 or 15 yards before reaching the switch, and the course of the car is turned to the right or the left, as desired, without stopping the car.

Through this invention tram cars do away with the inconvenience of stopping at every junction line and thereby save the trouble and time required for that service. The apparatus is very simple, of easy construction, practical, and can be readily attached without making any changes on the car. The first experiment recently made by the electric tramway company of Florence gave very satisfactory results.

CONGRESSES AND EXPOSITIONS.

FRANCE.

CONGRESS OF INTERNATIONAL REFRIGERATING INDUSTRIES.

Consul-General Frank H. Mason, of Paris, makes the following report of the proceedings of the International Congress of Refrigerating Industries which he attended as a delegate on the part of the Government of the United States:

The congress assembled on January 25, and was attended by delegates from 33 countries, and special representatives from 16 associations, which represent various refrigerating industries and interests. The purpose of the meeting was to take definite action concerning the proposed organization of a permanent international association of refrigerating industries, and to adopt a constitution for the same which had been drawn up and prepared by a special commission appointed for that purpose by the International Congress, which was held in Paris from October 5 to 12, 1908. This commission was composed of the following members: M. André Lebon, former minister, and president of the Messageries Maritimes Company, chairman; General de Wenderick, deputy minister of transportation routes in Russia; Prof. H. Kamerlingh Onnes, of the

University of Leyden, Holland; M. A. Touchard, secretary-general of the credit foncier of France, and M. J. de Loverdo, sanitary engineer of Paris, as secretary.

The proceedings were devoted to a discussion of the report of the commission on permanent organization, and the adoption, with certain modifications, of the constitution which it had prepared. The conference was conducted almost exclusively in the French language, although some of the British delegates spoke and submitted written opinions in English. The discussion was necessarily technical and without much general interest, except in so far as its results are embodied in the conclusions comprised in the published report.

All the delegates, except those of the German Empire and Austria, gave their adhesion to the new organization, and the Austrian ambassador at Paris has since notified the French minister of foreign affairs that his Government assents in principle to the creation of the International Association of Refrigerating Industries, with its headquarters at Paris.

The text of the constitution as adopted is transmitted. There is also forwarded a published report of the Commission des Voeux, a committee appointed at the Congress in October last to formulate and specify under proper classification the objects and purposes of the association, the subjects which should be specially studied, and the results of such studies standardized and made susceptible of uniform application in all countries.

These recommendations cover the whole field of scientific processes and mechanical equipment which relate to refrigeration and transportation and lay before the members of the association in all countries and all persons and firms who are interested in the systematic development of cold storage and transportation the specialized work which remains to be done and the results formulated for presentation before the Second International Congress, which will be held at Vienna during the year 1910. [The documents referred to may be consulted at the Bureau of Manufactures.]

RUSSIA.

COMMERCIAL AND INDUSTRIAL EXPOSITION AT PERNAU.

Writing from Riga, Consul Hernando de Soto says that a Russian commercial and industrial exposition will be held at Pernau, a port in the province of Livonia, under the auspices of the Pernauer Gewerbe Verein (Pernau Industrial Association), on July 4, 5, and 6 next. His particulars follow:

The exhibits will be divided into 12 classes, as follows: Food products; textile industry and wearing apparel; leather and rubber goods; earthenware, pottery, glassware, and china; woodenware, metal goods, hardware, etc.; chemical industry; paper and paper ware; office appliances; industrial arts; musical instruments; and horticulture.

As the last exposition of a similar character was held over 10 years ago in Pernau, the proposed undertaking is creating widespread interest among the public, and this fact, it is hoped, will not fail to induce manufacturers and producers to take advantage of this opportunity to display their products.

The port of Pernau, with a population of 20,000, is situated on the east coast of the Gulf of Riga, at the mouth of the River Pernau, and 200 miles north from Riga. While it has not the importance of the other two ports on the Baltic Sea—Libau and Windau—a considerable export and import business is done at this point with England, Germany, Holland, Sweden, Denmark, Norway, and the Russian ports.

The total value of exports from Pernau (of which England takes an average of 60 per cent) during 1908, according to the report just published by the Pernau exchange committee, was $2,610,355, as against $3,352,143 in 1907. The chief item was flax, of which 9,020 tons were exported. Other principal articles were 1,396 tons tow, 3,571 tons crushing seed, 4,200 sacks linseed for sowing, 1,631 tons barley, 20,833 tons wood pulp, 5,161,092 pit props, 85,870 sleepers, 781,333 pieces of deals, square timber, and lath wood. The principal articles of import in 1907 were: Coal, 95,000 tons; sulphur pyrites, 18,660 tons; chemical manure, 3,042 tons; corkwood, 400 tons; herrings, 1,000 barrels. The total value of imports during 1907 was $581,079. Figures of import for 1908 are not yet available.

THE NETHERLANDS.

FLOWER SHOW TO BE HELD AT HAARLEM NEXT YEAR.

Consul Henry H. Morgan, of Amsterdam, deems it of interest to horticulturists to know that the Algemeene Vereeniging voor Bloembollencultuur (association of bulb growers) are organizing a flower show, under the patronage of Prince Henry, to be held at Haarlem, the Dutch center of the trade in flowers and flower seeds, on the occasion of the association's jubilee next year.

This show will not be devoted exclusively to bulbs, but is intended to give a good idea of the Dutch horticulture, arboriculture, and floriculture. The association has heretofore held every 5 years a display lasting only a few days, but the projected show in 1910 will be held on a much larger scale. The town council of Haarlem has given the "Hertenkamp," consisting of about 10 acres, on which the exhibition will be held. The show will commence shortly before Easter and will last until the end of May. The local press, commenting on the undertaking, says:

> The extensive preparations for this show, which are in the hands of a special committee, are already in full swing. Numerous notices of it are appearing in the foreign press, and there exists not the slightest doubt that it will not only attract the notice of crowds of the Dutch themselves, but will also attract horticulturists and amateur gardeners from far and near to our land who can not fail to conceive a high opinion of the great economic significance of horticulture in the Netherlands, and of bulb growing in particular.
>
> We may also add that while up till now the opinion prevailed that a sandy soil was strictly essential to the cultivation of bulbs, the experiments which are being made with bulbs in another part of north Holland, where the soil is entirely different, prove that such is not the case. Most successful results have been obtained, and therefore bulb growers who may visit the show will do well to bear this fact in mind, as it may be turned to advantage in the culture of bulbs in their own lands.

BRAZIL.

INVITATION TO PARTICIPATE IN HEALTH CONGRESS.

Hon. Joaquim Nabuco, ambassador from Brazil, addresses the following note to the American Government inviting participation in a congress, mention of which has already been made in Consular and Trade Reports:

I have the honor to transmit, in conformity with instructions just received from Rio de Janeiro, the invitation of the Brazilian Government to the United States Government to participate in the fourth Latin-American Medical Congress to be held in Rio de Janeiro from the 1st to the 9th of August, and also in the International Exposition of Hygiene that will take place in the same city from the 1st to the 30th of September, in conjunction with the same congress.

The Brazilian Government hopes the United States will render to the progress of medical science in our continent the great service of being represented in that meeting and in that exhibition.

UNITED STATES.

FOURTH ANNUAL SHOE AND LEATHER FAIR AT CHICAGO.

The Bureau of Manufactures is in receipt of a letter from the Jacobsen Publishing Company announcing that the Fourth Annual National Shoe and Leather Market Fair will be held in the Coliseum Building, Chicago, from August 26 to September 2, 1909. The company mentioned has again been appointed manager for the fair, and can be addressed at 154 Lake street, Chicago.

SAXON HOME PROTECTION.

PRESERVATION OF THE BEAUTIFUL IN THE COUNTRY'S ARCHITECTURE.

The following information concerning the organization of a society in Saxony for the preservation of the peculiarities of the older buildings in town and country, the beautifying of household interiors, and the general cultivation of the beautiful and appropriate in the surroundings of the people is furnished by Consul Carl Bailey Hurst, of Plauen:

Widespread interest is manifested here in a newly organized patriotic movement, called Saxon Home Protection, a branch of which has been established in this consular territory. It strives to preserve the architectural peculiarities still seen on the older buildings in country and city, furnishes advice as to the appropriate designing of buildings and parks of every description, and takes measures against the defacement of towns and rural districts; it seeks further to develop Saxon handicrafts in connection with beautifying household interiors; it protects, as far as practicable, the old landscapes, domestic flora and fauna, and even geological formations that may lend interest to particular neighborhoods.

In some respects the society is akin to other German organizations, known as Care of Monuments, and the like, whose efforts are along closer lines in more limited localities, for the purpose of perpetuating certain survivals of earlier generations.. In order to exert a stronger influence in the home field, the Saxon Home Protection finds its reason for coming into existence in this epoch of progress in the Saxon kingdom.

THE BEAUTIFUL VERSUS MANUFACTURES AND COMMERCIALISM.

With the rapid advance of manufactures and commercialism, and with the growing influx of people from farms to factories, a transformation has become strongly noticeable in building in almost every district of Saxony, which, it will be remembered, is one of the most densely populated areas on the globe. In remote parts of the country structures have been erected in urban styles, rectangular, utilitarian, foreign to local traditions and at variance with the surroundings. It is not the purpose of the new society to be ultraconservative, but, while keeping pace with modern requirements, to endeavor to have new buildings or alterations in old ones conform to certain lines in harmony with older accepted designs peculiar to the locality, a result which can be obtained at no greater pecuniary outlay than by using inappropriate designs, in reality, oftentimes, at smaller cost.

GOVERNMENT ENCOURAGEMENT—NEW BUILDING LAW.

Encouraged by the authorities and with the assistance of the greater part of the public much has already been accomplished to preserve the historical aspect of the country to which the Saxons are so strongly attached.

That the Saxon government is in thorough accord with the aspirations of the new organization may be seen from the grant to the society of a yearly subvention to provide a headquarters with thoroughly qualified architects who shall give opinions and prepare plans in connection with architectural improvements. It has favored recent legislation empowering the competent officials to forbid the placing of advertisements such as painted signs, placards, pictures, or show cases where they are apt to disfigure streets, squares, buildings, or even the general appearance of the neighborhood.

The new law prescribes that the permission of the building police for the erection of buildings and for architectural alterations can be refused if, by the contemplated construction, another building in the vicinity, or a street, or the landscape is thereby disfigured. But this clause will not be applicable if, through the refusal of a license to build, the owner be placed at an exceptionally great disadvantage, or the cost to him, by complying with the law, be made appreciably greater.

ARTISTIC AND HISTORICAL FEATURES SAFEGUARDED.

By local regulations certain streets can be made to retain their historical or artistic character, so that the required permission of the police authorities for new buildings or architectural alterations may be refused when such construction may unfavorably influence the aspect of the neighborhood. Local regulations can also prescribe that the police license be withheld for changes on single buildings having historical or artistic importance, and also for alterations in the proximity of such old buildings if the latter may be at all unfavorably influenced by the proposed change. Decisions in cases connected with the local laws on granting or withholding of building licenses are subject to the hearing of building experts. Certain state authorities have the right in their various districts to require that local laws in reference to home protection be made. If such laws are not issued within a given time adequate regulations can be promulgated by the Ministry of the Interior, which shall remain in effect until the towns in question create suitable laws of their own. In instances where there may be harm in waiting for the enactment of local protective laws district governors are authorized to issue provisional regulations.

HARMONY OF SURROUNDINGS.

When an owner may be subjected to great disadvantage or to heavier expense by complying exactly with the regulations, permission to build may be granted if the character of the building will be in at least some harmony with its surroundings. In case of appeal to the competent authorities, not less than three experts are to be heard. All plans have to be submitted before license to build is granted, and if any subsequent changes are proposed further permission must be received. But the movement is general throughout the country for the construction of attractive houses in keeping with surrounding conditions. A short time ago a widely attended exhibition of plans was held in Plauen for model dwellings at a minimum cost for country and town. On account of the building laws and the habits of the people, most of the buildings here are made of masonry; few houses are built entirely of wood.

In the periodical maintained by the Saxon society, and devoted to subjects peculiar to the organization, one finds numbers of illustrations comparing artistic houses, public edifices, bridges, and even doorways and gateways with parallel instances of similar but disfiguring types. Interest is also manifested in the retention of old potteries, old interior decorations, and old styles of furniture as far as compatible with modern requirements and improvements. It is not enough, however, that these various things are old; they must have some artistic qualifications as well.

INVENTORY AND PRESERVATION OF NATURAL BEAUTIES.

One especially peculiar and extensive undertaking that the Saxon society is now at work upon, following an example set in a few other German States, is the preparation of an inventory of the natural beauties and individualities of the country, such as the finest scenery, interesting rock formations, both from picturesque and scientific points of view, botanical rarities, moors, streams, ponds, and lakes. Likewise are to be recorded peculiar tree growths, copses, and hedges, the destruction of which would endanger the existence of certain birds.

Particular attention is to be devoted in the inventory to the forests, to the roads running through them, to groups of trees, and even to single great trunks, which, on account of age, historical association, especial beauty, size, or formation, have become landmarks. In this register the various entries will be accompanied by illustrations, as far as possible, in each case. An earnest request has been sent throughout Saxony to public officials, to associations, clergymen, teachers, and those interested in natural history, and in particular to the members of the Saxon Home Protection to submit all possible data for this inventory of the picturesque assets of Saxony. Although it will be hardly possible, from the very urgency of modern industrial necessities, to stay the passing of all of the objects of interest, under the fostering care of the new organization it will, doubtless, be the pride of the society to save many of them from becoming memories of another age.

PATENTS AND TRADE-MARKS.

UNITED KINGDOM.

ALLEGED BENEFITS TO COUNTRY FROM THE NEW PATENTS ACT.

An abstract from the Sheffield Daily Independent of March 15, forwarded by Consul Charles N. Daniels, gives figures showing the extent to which England claims to have benefited by the "new patents act:"

Since this act came into operation, in August, 1907, the country has benefited by foreign capital to the extent of $1,518,978, made up as follows: Value of rent and premises acquired by foreign manufacturers in England, $570,690; amount expended on erection of buildings, housing of work people, etc., $522,450; amount expended on plant, machinery, and equipment of factories, $425,838. The value of the annual assessment on which local authorities will receive rates (i. e., taxes) will be $86,309 per annum.

Up to the present time nine patents in all have been revoked by the comptroller-general, the last one just announced being Patent No. 14948 of 1900, concerning steam generators, which has been revoked on the application of The S. M. Car Syndicate.

"These revocations are exceedingly important," says a firm of agents in London which has negotiated the sales of many of the sites, "for they show that the conditions of the act are being enforced." This firm is now in negotiation with foreign firms for the erection of works in this country, the trades including engineering, chemical works, electrical plants, rubber making, pottery works, and steel foundries. The districts which have so far benefited most by the advent of new industries from abroad are Enfield, Flintshire, Hayes, Leicester, Liverpool, London, Manchester, and Warrington. At all of the factories English workmen for the most part are employed. In one or two instances the firms have brought over their own overseers to instruct the work people, and in some cases they have taken English hands abroad so as to initiate them into their methods.

GERMAN-AMERICAN PATENT TREATY.

RECIPROCAL PROTECTION OF PATENTS, DESIGNS, AND MODELS.

On February 23 last an agreement was signed at Washington between the United States and the German Empire providing for full reciprocal protection of patents, designs, and models of citizens of the respective countries. The agreement was submitted for ratification to the Senate on February 24 and ratified by that body April 15. According to telegraphic advices the ratification of the treaty has also been recommended by the German Bundesrath (federal council). The ratification of the treaty by the German Reichstag is now confidently awaited, whereupon it can be put into effect.

ARTICLES OF THE TREATY.

ARTICLE I. The provisions of the laws applicable, now existing or hereafter to be enacted of either of the contracting parties, under which the nonworking of the patent, working pattern (Gebrauchsmuster), design or model carries the invalidation or some other restriction of the right, shall only be applied to the patents, working patterns (Gebrauchsmusters), designs or models enjoyed by the citizens of the other contracting party within the limits of the restrictions imposed by the said party upon its own citizens. The working of a patent, working pattern (Gebrauchsmuster), design or model in the territory of one of the contracting parties shall be considered as equivalent to its working in the territory of the other party.

ARTICLE II. This agreement shall take effect from the date of its promulgation and remain in force until the expiration of 12 months following the notice of termination given by one of the contracting parties.

ARTICLE III. The present agreement shall be ratified and the ratifications shall be exchanged at Washington as soon as possible.

BRITISH INDIA.

AGITATION IN UNITED KINGDOM FOR TRADE-MARK REGISTRATION.

In furnishing the following information concerning trade-marks in India, Consul-General W. H. Michael, of Calcutta, reports that it is likely some action will soon be taken in connection with their registration:

This question has been under discussion for many years, but differences of opinion in regard to it among Indian chambers of commerce have necessarily delayed any action being taken by the government of India. The whole question has now been revived by the association of chambers of commerce of the United Kingdom. The London association thinks that commercial opinion in India has undergone a change in favor of registration. The proposal now made by the British chambers is that the cotton classes should be excluded from the scope of the new law, but all other imported goods, and presumably all locally manufactured articles, would be included.

KOREA.

PROTECTION FOR AMERICAN, JAPANESE, AND KOREAN TRADE-MARKS.

Consul-General Thomas Sammons, of Seoul, transmits the following extract, taken from the Press of that city, in its issue of January 22, 1909:

The Korean ordinance promulgated last year concerning trade-marks provides that Japanese, Korean, and American trade-marks duly registered in Japan before the ordinance came into force, will be secure of their exclusive use in Korea, too, and that provisions of the trade-marks law will be applied to people who transfer, sell, or store, for the purpose of selling, articles marked with trade-marks thus protected or their imitations after six months from the date of the enforcement of the ordinance. The ordinance in question having come into force on August 16, 1908, articles bearing any trade-marks which are similar or resemble the registered trade-marks of the three countries are to be driven out of the Korean market on February 16, 1909. Anybody who offends against the regulations must be prepared to meet the penalty, that is, imprisonment ranging between one month and two years and a fine of $10 to $250. In addition, he ought to be prepared for an action for damages by the injured party. When a merchant finds his trade-mark illegally registered by another, he may petition the patent bureau of the residency-general for the nullification of the right thus established, while in doubtful cases he may request the same authority for official recognition of his own right.

PROGRESS OF MEXICO.

REVIEW OF CONDITIONS BY PRESIDENT OF THE REPUBLIC.

To the second session of the Twenty-fourth Mexican Congress President Diaz delivered a message reviewing national affairs for the last half of the year 1908. Important economic references from the message are as follows:

The new construction of federal railways during the past half year totaled 263 kilometers (kilometer = 0.62 mile). The chief contributions to this increase were made by the line from Alamos to Guadalajara and the line from Nogales to the Naco-Cananea Railway. On the former construction was completed from Navojoa to Mazatlan and from Orendain to Tequila, and on the latter from Nogales to Del Rio.

The kilometrage of federal railways is now 19,072 kilometers, and adding the railways which are subject to the jurisdiction of the States, which aggregate 4,850 kilometers, we get a total of 23,912 kilometers.

NEW POSTAL ARRANGEMENTS.

In the month of November last the Congress of the Union passed a law establishing a system of receipts for postal money orders, both in the interior and international service; the former was inaugurated on February 1 last, and the latter, embracing, at the start, Canada, Germany, France, Great Britain, and Salvador, on March 1. In connection with this service a direct exchange of correspondence was established between the offices of Manzanillo and Acapulco, in Mexico, and Victoria, British Columbia, and between Frontera and New York and Galveston.

A system of postal money orders was established between Mexico and Turkey, through the German service.

The rates on postal parcels to Germany and to the countries and colonies for which the German service is the intermediary have been modified.

IMMIGRATION, LAND AWARDS, AND IRRIGATION.

From July 1 to December 31, 24,500 persons entered the country, of whom 11,000 were Americans and 3,700 home-coming Mexicans. During the same period 2,020 land-title deeds were issued, transforming into private property an area of 331,958 hectares (hectare=2.47 acres) of national land, for which the federal exchequer received $165,800 gold. With a view of benefiting properties that are susceptible of irrigation, the Geological Exploration Commission made a survey of the Santiaguillo Lake, in the valley of Guatimape, the waters of which can be diverted to the rich Nazas region; and made reconnaissances of the Tunal, the Conchas, and other rivers, looking to the use of their waters for the encouragement of agriculture by irrigation.

The new Institution of Loans for Irrigation Works and the Encouragement of Agriculture has been conspicuously successful, both from the point of view of the credit which it commands abroad and of the services which it has been able to render in the Republic in furtherance of the ends for which it was founded, in the very short time that has elapsed since it commenced operations. Its own capital of $10,000,000 ($5,000,000 gold) and a substantial portion of the $50,000,000 ($25,000,000 gold) which it secured on advantageous terms by an issue of bonds have already been lent out to agricultural concerns on first-class security and on conditions which, both as to interest and terms of payment, are favorable to the borrowers.

Increased interest is constantly being manifested in the utilization of water courses subject to federal jurisdiction, stimulated, during the period under review, by the ample resources which the important new institution, known as the Caisse, for loans to irrigation works and for the encouragement of agriculture, has been able to furnish to our agriculturists, and by the sums assigned, out of the treasury reserves, for the promotion of irrigation works wherever they are possible. As a consequence of these new facilities concessions have been granted, such as that to the San Diego River Company, the Sautena Company, the Chapala Company, and others, with subsidies, which, it is hoped, will accelerate the progress of our agriculture and make it the basis of our national wealth.

In the first half of the current fiscal year 142 applications were received for the utilization, in different ways, of federal water courses; 10 concessions were granted for the same object, and 26 title deeds were issued, either in connection with new grants or in confirmation of existing ones.

PATENTS AND TRADE-MARKS—CODES OF INTERNATIONAL LAW.

In the period embraced between July 1 and December 31, 1908, 549 patents of invention, 26 for industrial models, and 1 for a design were granted. The trade-marks registered numbered 522, and commercial announcements and names for which registration was obtained totaled 63.

In May, 1909, a conference of jurists will meet at Rio de Janeiro to draft a code of public and a code of private international law to govern the relations of the nations of America with one another. A Mexican delegate has been appointed to this conference, and he has departed for his destination. It is to be hoped that a common ground will be reached, in order that the ideal of civilized nations, which is to adjust their relations to principles freely agreed on among them, may be realized.

IMPROVEMENTS AT NATIONAL CAPITAL.

In the works for the sanitation of the capital city 2,000 meters of main sewers and more than 8,000 meters of lateral sewers have been laid, and for the purpose of flushing them 75-centimeter iron pipes, aggregating 1 kilometer in length, have been provided.

Asphalt pavement has been laid in 40 streets with an aggregate area of more than 83,000 square meters, and 20 streets have been provided with cement sidewalks aggregating more than 11,000 square meters.

In the outskirts of the city cobble pavement of a total area of 33,000 square meters has been laid.

The Dolores Cemetery has been provided with 2 cremating furnaces of a capacity for the incineration of 30 bodies per day of 10 hours. This innovation is regarded as advantageous for health besides simplifying the management of the cemeteries.

CHINESE WEIGHTS AND MEASURES.

SUPPLEMENTARY REPORT ON INTRODUCTION OF THE NEW SYSTEM.

Consul-General Edward T. Williams, of Tientsin, furnishes the following additional information concerning the new system of weights and measures now being introduced throughout the Chinese Empire:

A report recently issued by the Imperial Board of Agriculture, not yet in general circulation, contains the memorial and rescript translated in my former report and gives in addition a history of weights and measures in China under various dynasties, drawings explaining the construction of the instruments of measurement adopted, the tables for the new system of the measurements of length, area, capacity, and weight, with their metrical equivalents, accompanied by explanatory notes, a chapter describing the standard instruments of measurement and the materials of which they are made, and 40 regulations in accordance with which the new system is to be introduced. [Printed in Monthly Consular and Trade Reports, February, 1909.]

In my former report the length of the "Board of Works Foot" was given as equal to 12.25 inches English. This has been the accepted equivalent in the past, and is the measurement given in Giles's Chinese-English Dictionary, a generally recognized authority, but the board has decided the length of this standard ch'ih or foot to be 32 centimeters (12.598 inches).

GRADUAL INTRODUCTION OF THE REGULATIONS.

All instruments of measurement are to be manufactured by the Government and distributed throughout the Empire. Within 3 months after the receipt of these instruments at any yamen the new system is to be adopted, if possible, in that yamen. If for any reason it should become impossible to put the new system into force in such yamen without delay, the equivalents of all measurements must be given in the new system, and by the end of the second year the said yamen must entirely abandon the old system.

Within 1 year after the receipt of the regulations a bureau of weights and measures must be established in each provincial capital, which bureau, through its deputies, must consult with the local officials and the chambers of commerce throughout the province and determine which of the old weights and measures in any locality are to be temporarily retained and which abolished at once, and make report of the same. Within the next 3 years the change to the new system must be completely accomplished in the provincial capitals and at all ports of international trade. During the fifth, sixth, and seventh years the change must be effected in all prefectural cities, and during the eighth, ninth, and tenth years in all subprefectures, departments, and districts, and that is throughout the remainder of the Empire proper. It is the plan, therefore, to secure the uniform adoption of the new system within the next 10 years. It is provided, however, in the treaties with foreign powers that in the calculation of the export duty a picul of 100 catties (chin) shall be reckoned as equivalent to 133⅓ pounds avoirdupois, that the length of the chang shall be 141 inches English, and the ch'ih equal to 14.1 inches.

The new weights and measures can not be adopted at once in the Imperial Maritime Service without the consent of the treaty powers, and on this account it is provided in Article XIV of the regulations that the old weights and measures employed in the Imperial Maritime Service shall be continued in use, but that a table of equivalents shall be prepared.

[A series of tables of weights and measures under the new system, with their metrical equivalents and Chinese characters, viz, linear and land measures and measures of capacity and weight, transmitted by Consul-General Williams, are on file in the Bureau of Manufactures.]

AMERICANS IN CANADA.

SUMMER TOURISTS SPEND LARGE AMOUNTS IN THE DOMINION.

In a report from Kingston, Consul H. D. Van Sant says that the revenue from American tourists and summer residents of Canada is growing larger each year, and during the open season adds considerably to the volume of trade between the two countries. The consul also gives some idea of the benefit to the Dominion:

While no accurate figures are obtainable as to the amount spent in Canada each summer by Americans, it is safe to say that the estimate of $5,000,000 made several years ago is not too low, and during the coming season the prospects are that more than that amount will be spent. Many of the wealthier classes of the Southern States spend their entire summers across the border, and from Nova Scotia to Vancouver the Canadian borderlands and islands along the waterways are dotted with the summer homes of Americans.

In this district a thousand or more dwellings or camps are occupied by Americans, many of these palatial in size and luxurious in service. This is particularly true at Coburg and in and about Kingston and among the Thousand Islands. The demand for cottages and camp sites this spring is brisker than for several seasons, and many new American sojourners are expected. The rents asked for cottages and camps are increasing, and this year range from $50 to $2,000 per season.

In Kingston 500 to 600 Americans visit the city almost daily. In the winter not more than a dozen Americans register in the district, and commercial and other international intercourse decreases to a large extent.

Tradesmen generally cater to and profit by the summer trade, and the stores, hotels, and boarding houses take on more of an American aspect as the season opens. Visitors from the United States are usually termed good spenders, and their outlay adds considerably to the volume of trade in the city and district.

With the advent of rapid transit and cheaper transportation, of house boats and palatial yachts, and improved passenger and freight boats, the attraction of the summer climate, fishing, and other advantages will add largely to this trade and help to increase commercial relations generally.

CRUSADE AGAINST MOSQUITOES.

STRINGENT MEASURES IN CITY OF LEIPZIG TO PREVENT MALARIA.

Consul Southard P. Warner, of Leipzig, makes the following report on the German movement to combat malaria:

So many cases of malaria have recently occurred in those sections of Leipzig which are adjacent to any one of the four rivulets which flow through the city that the city council has decided to adopt stringent measures to exterminate the mosquitoes (*Anopheles*) that spread the disease.

In order that the work of extermination may be thoroughly and systematically carried out the city council has notified all housekeepers in the infected sections of the city to carefully examine their houses or apartments for mosquitoes and to destroy any that may be found. Every household in the districts concerned has been furnished by the city council with a large circular, which, in addition to information as to the cause and spreading of malaria, contains advice as to the best means of destroying the malaria mosquitoes.

Certain dates have been specified between which the houses are to be searched and the mosquitoes destroyed. At the expiration of the time specified inspectors appointed by the city council will visit each house and apartment and make careful examinations to see that the work of exterminating the mosquitoes has been properly carried out. Those who fail to comply with the regulations promptly and thoroughly will be subject to a fine of about $7.50.

FINANCES.

INCOME TAXES ABROAD.

UNITED KINGDOM.

OPERATION AND EXTENT OF YIELD—RECEIPTS FROM VARIOUS GROUPS.

Special Agent Charles M. Pepper has prepared the following very comprehensive report on the British income tax, showing the rates of taxation, and also its relation to the other sources of revenue:

The British income tax in one form or another has been in force with some short and some long intervals of freedom from it for 110 years. Since 1842 its operation has been almost continuous. In 1799, when the tax was first applied and Ireland was not included, the population on which it was laid numbered 10,500,000 and the revenue obtained was approximately $30,000,000. For the fiscal year which ended March 31, 1909, with a population in Great Britain and Ireland of 44,500,000, the revenue was £33,930,000 ($165,103,000). This was the greatest single source of revenue since it exceeded the excise revenue by £300,000. It was also £930,000 in excess of the estimate for the year. The tax was levied on gross income of approximately $5,000,000,000 and net income of $3,200,000,000. While the income tax receipts occasionally fall below the estimates by small amounts, the more common experience is that the receipts exceed them by large amounts.

RELATION OF INCOME TAX TO OTHER REVENUES.

The exact relation of the property and income tax, as it is known, to the other revenues of the United Kingdom appears in the following summary of sources of revenue for the fiscal year 1908–9:

Customs	£29, 200, 000
Excise	33, 650, 000
Estate, etc., duties	18, 370, 000
Stamps	7, 770, 000
Land tax	730, 000
House duty	1, 900, 000
Property and income tax	33, 930, 000
Post-office	17, 770, 000
Telegraph and telephone	4, 530, 000
Crown lands	530, 000
Suez Canal, etc	1, 171, 466
Miscellaneous	2, 026, 829
Total	151, 578, 295

From this total of £151,578,295 ($735,590,000), in order to get at the tax and nontax means of revenue it is necessary to separate the nontax revenues, which are those from the post-office, telegraph and telephone, crown lands, Suez Canal shares, and miscellaneous sources. These amounted to £26,028,295 ($126,654,000), leaving £125,550,000 ($610,936,000) raised by taxation. From this it appears that in 1908, out of total revenues of $737,590,000 and of tax revenues of $610,936,000, the income-tax contribution was the largest.

HISTORY OF THE TAX—SCHEDULES.

The history of the income impost may be briefly described as a series of temporary expedients converted from time to time into fixed taxes, until it has become one of the chief means of taxation. The tax has varied from time to time both in form and substance, while the rates have ranged over a wide scale, until now in the fiscal legislation of the United Kingdom the changes made are usually with a view to securing further revenue, though in some periods the modifications have been for the purpose of giving relief. The system in force is based on the fundamental acts of 1842 and 1853, and the tax is imposed for every 20 shillings, or pound sterling ($4.866). of the annual value of certain profits, which are set forth under various schedules comprising the sources of income. These are as follows:

Schedule A.—Property in all lands, tenements, hereditaments, and heritages in the United Kingdom.

Schedule B.—Occupation of all such lands, tenements, hereditaments, and heritages.

Schedule C.—All profits arising from interest, annuities, dividends, and shares of annuities payable to any person, body politic or corporate, company or society, whether corporate or not corporate, out of any public revenue.

Schedule D.—The annual profits or gains arising or accruing to any person residing in the United Kingdom from any kind of property whatever, whether situate in the United Kingdom or elsewhere, and the annual profits or gains arising or accruing to any person residing in the United Kingdom from any profession, trade, employment, or vocation, whether the same shall be respectively carried out in the United Kingdom or elsewhere.

And the annual profits or gains arising or accruing to any person whatever, and whether a subject of His Majesty or not, although not resident within the United Kingdom, from any profit whatever in the United Kingdom, or any profession, trade, employment, or vocation exercised within the United Kingdom.

And all interest of money, annuities, and other annual profits and gains not changed by virtue of any of the other schedules.

Schedule E.—Every public office or employment of profit, and upon every annuity, pension, or stipend payable by His Majesty or out of the public revenues of the United Kingdom, except annuities charged to the duties under Schedule C.

EXPLANATIONS OF THE SCHEDULES.

Full definitions are given of the meaning of the various terms in these schedules as they are to be applied by the Commissioners of the Inland Revenue. Collections " at the source " include the tax on land paid through the tenants, on dividends paid from the offices of public companies, and on consols paid through the Bank of England. It is stated that in order to secure the abatements and deductions which are allowed, about four-fifths of the income-tax payers make written declarations of their aggregate incomes. Two-thirds of the tax is paid indirectly.

ABATEMENTS AND MODIFICATIONS.

All incomes under £160 are exempt from the income tax. Graduated abatements also are allowed on incomes between £160 and £700. The scale of these abatements since 1898 has been as follows:

£160 on incomes exceeding £160 but not exceeding £400.
£150 on incomes exceeding £400 but not exceeding £500
£120 on incomes exceeding £500 but not exceeding £600.
£70 on incomes exceeding £600 but not exceeding £700.

The modifications of the income tax in practice are set forth in the detailed exhibits of the number and amounts of the abatements, in the exemptions in respect of small incomes, and in the deductions from gross income for life-insurance premiums, charities and hospitals, repairs of lands and houses, wear and tear of machinery or plant, and other allowances. Deductions of one-eighth are allowed in respect of lands and of one-sixth in respect of houses for repairs, etc.

In analyzing the yield from the tax attention must be paid to the rate of charge, and a basis of estimate may be had from the knowledge that at 1 shilling in the pound sterling it would be 5 per cent. The lowest rate of charge since the foundation of the present system was laid, in 1853, has been 2 pence in the pound sterling, which would be 4 cents in $4.86, or a fraction over 1 cent on the dollar. This rate obtained in 1875–76. In 1874 the charge was 3 pence to the pound. Since 1896 the lowest rate has been 8 pence and the highest 1 shilling 3 pence, or approximately 30 cents to the $5. The various exemptions, deductions, and abatements in practice have the effect of modifying the rate for the individual taxpayer, but in calculating the revenue derived from the tax the feasible mode is to determine the amount which each penny in the pound produces. Thus, in 1898, when the rate of charge was 8 pence, the total produce for each penny of the tax was £2,188,000 ($10,692,000), and in 1907, when the rate was 1 shilling, £2,667,000 ($12,977,000). In terms of American currency this would be approximately $5,350,000 and $6,500,000 for each 1 cent of the tax in the respective year.

NET RECEIPTS FROM TAX.

The net receipts of the income tax in the fiscal years from 1898–99 to 1907–8, inclusive, showed that in the latter year almost twice as much revenue was drawn from this source as in 1898, the figures being £18,042,311 and £31,860,000, respectively. The bulk of the increase was due to increased rates, though not exclusively so, as the gross amounts and the net incomes both increased in the period mentioned. Since every year reveals incomes previously covered up, the mere addition to either the gross income or the net income can not be taken as entirely a fresh addition to the national wealth. The full returns of net receipts and rate of charge in the period from 1898 to 1907, inclusive, are as follows:

Year.	Amount.	Rate in the pound sterling.	
		s.	*d.*
1898-99	£18,042,311	0	8
1899-1900	18,867,336	0	8
1900-1901	27,561,160	1	0
1901-2	35,378,700	1	2
1902-3	38,659,846	1	3
1903-4	30,500,420	0	11
1904-5	31,263,654	1	0
1905-6	31,294,752	1	0
1906-7	31,891,949	1	0
1907-8	*31,860,380	1	0

* Nine pence on "earned" incomes up to £2,000.

YIELD FROM VARIOUS SOURCES.

Notwithstanding the complicated working system of the tax, it is possible to place the yield from the different sources as classified under the various schedules. Complete statistics for the fiscal years 1907 and 1908 are not available, but for the ten-year period from 1897 to 1906, inclusive, the classes of income on which tax was received can be given, the abatements and deductions from gross income having been made. The exhibit is as follows:

Year.	Class 1, profits from ownership of lands, houses, etc. (Schedule A).	Class 2, profits from occupation of lands, etc. (Schedule B).	Class 3, profits from British, Indian, colonial and foreign government securities (Schedule C).	Class 4, profits from businesses, concerns, professions, employments, etc. (Schedule D).	Class 5, salaries of government, corporation, and public company officials (Schedule E).	Total.
1897-98	£143,120,150	£5,020,024	£35,966,088	£303,508,980	£37,490,958	£525,211,200
1898-99	148,123,018	4,987,105	36,703,116	318,555,003	39,861,306	548,229,450
1899-1900	149,043,252	4,862,656	36,165,000	332,149,361	42,678,520	564,868,749
1900-1901	151,403,371	4,706,301	38,170,385	354,038,230	45,787,966	594,106,253
1901-2	152,178,053	4,411,746	40,768,889	343,027,479	47,164,772	607,550,919
1902-3	152,282,290	4,338,514	42,310,728	361,408,999	48,271,363	608,606,903
1903-4	156,197,274	4,431,068	40,286,157	364,483,933	49,713,341	615,012,373
1904-5	157,096,080	4,205,124	41,357,050	365,234,308	50,835,535	619,328,097
1905-6	157,525,804	4,090,835	42,316,844	375,348,954	52,742,309	632,024,746
1906-7	158,452,590	4,111,585	41,710,904	381,036,647	54,736,452	640,048,238

The gross amount of income arising from the ownership of lands, houses, etc., for 1907, showed a net increase of £47,284,000, or 21.8 per cent, as compared with 1898. There was a decrease as regards lands of 3.4 per cent, which was more than compensated for by the increase as regards houses, which was 29.9 per cent.

Profits from government securities—British, Indian, colonial, and foreign—showed an increase of £8,113,000, or 21 per cent, over the same decennial period.

Interest from Indian, colonial, and foreign securities other than government securities increased £6,807,000, and railways out of the United Kingdom £5,957,000.

Businesses, concerns, professions, etc., showed an increase of £117,357,000, or 29.2 per cent, during the ten years.

Railways in the United Kingdom showed an increase of £2,355,000; mines, £7,294,000; gas works, £1,735,000; iron works, £474,000; waterworks, £1,389,000.

Salaries of government, corporation, and public company officials increased in the ten years from £59,791,000 to £97,132,000, or 62.4 per cent, but part of this was merely bookkeeping, since the conversion of private concerns into public companies increased the amount assessed under profits from businesses, concerns, etc.

RELATIVE YIELD OF THE SEVERAL GROUPS.

From the tabular summary it will be seen that the single group of businesses, concerns, professions, and employments furnishes more than half the income from which the tax is collected, the amount in 1906–7 having been £381,037,000 out of the total of £640,048,000. Relatively, the same proportion holds with reference to gross income, the figures for the same year having been £518,670,000 out of a total of £943,702,000. The gross income under this head covers the assessable profits after the deduction of all outgoings which the law regards as a set-off in arriving at the assessable income. The profits included in this group consist of those from businesses, manufactures, or concerns in the nature of trade, from employments except those of a public nature, and from foreign and colonial securities except government securities. The main classification in this group is the general one of businesses and professions, including salaries of employees. In the year under consideration it afforded £373,057,000 out of the gross income of £518,670,000. Particular properties designated are railways, canals, mines, gas works, iron works, market tolls, quarries, etc. Railways were credited with a gross income of £42,070,000, and mines, £16,372,000.

After businesses and professions, profits from the ownership of lands and houses are the leading source of income on which the tax is laid. In the year cited they furnished £263,742,000 of gross and £158,453,000 of net income. This group includes every description of property in the nature of realty that can be brought into valuation. Farmers' profits come under the separate grouping of occupation of lands. The profits are assumed by law to be one-third of the annual value.

The gross income from all classes of profits brought under review of the Inland Revenue Department ranged from £734,461,000 in 1897 to £943,702,000 in 1906. The character and the relative proportions of the elements which differentiate the gross income from the income on which the tax is received can be shown from the analysis of deductions for a single year, and for this purpose 1906–7 is taken. In that year the deductions from gross income were as follows:

Exemptions in respect of small incomes	£54, 520, 281
Abatements	114, 556, 689
Life-insurance premiums	9, 155, 557
Charities, hospitals, friendly societies, etc	11, 105, 028
Repairs—lands and houses	38, 996, 538
Wear and tear of machinery or plant	17, 107, 518
Other allowances and incomes on which tax was irrecoverable	58, 212, 165
Total	303, 653, 776

INCOME FROM ABROAD.

A very interesting feature of the British income tax is the amounts received from investments abroad. These include income disclosed by agents for payment of interest in the United Kingdom on foreign and colonial government securities, tax on dividends or interest paid through agents by a foreign or colonial company or corporation, tax on the value of coupons for interest and dividends from abroad, income received in respect of investments abroad, and British companies owning and working railways abroad. In 1907 the income disclosed under these heads amounted to £79,560,000.

Beyond this earmarked figure there exists a large amount of income from abroad which can not be identified as such in the assessments, and which is therefore included in the quota of businesses, professions, etc. This unidentified income includes concerns other than railways situated abroad, but having their seat of direction and management in the United Kingdom, such as mines, gas works, tramways, nitrate grounds, oil fields, tea and coffee plantations, land and financial companies, etc.; concerns jointly worked abroad and in the United Kingdom, such as electric telegraph cables and shipping; foreign and colonial branches of banks, insurance companies, and mercantile houses in the United Kingdom; mortgages of property and other loans and deposits abroad belonging to banks, etc., in the United Kingdom; profits of all kinds arising from business done abroad by manufacturers, merchants, and commission agents resident in the United Kingdom.

Profits from abroad so far as identified for the period from 1898 to 1907, inclusive, have been as follows:

Year. (1)	India government stocks, loans, and guaranteed railways. (2)	Colonial or foreign government securities. (3)	Colonial or foreign securities (other than government) and possessions "coupons" and railways out of the United Kingdom other than those included in column 2. (4)	Total. (5)
1897-98	£8,168,258	£17,205,964	£31,265,474	£56,639,696
1898-99	8,258,820	18,233,429	33,217,654	59,709,903
1899-1900	8,281,704	18,394,390	33,590,792	60,266,886
1900-1901	8,567,639	18,685,410	33,078,476	60,331,525
1901-2	8,880,908	19,245,888	34,432,683	62,559,479
1902-3	9,048,777	19,935,643	34,814,295	63,828,715
1903-4	8,695,929	20,263,072	36,906,305	65,865,306
1904-5	8,760,185	20,880,837	36,421,087	66,062,109
1905-6	8,862,907	22,069,260	42,967,198	73,899,265
1906-7	8,768,237	22,270,846	48,521,033	79,560,116

A valuable addition to the details given regarding profits from abroad is afforded in the summary of income from profits from British, Indian, colonial, and foreign government securities. The gross profits under this head in 1907 amounted to £46,722,000 as against £38,609,000 in 1898. From an analysis of the countries from which this income was received it appears that British funded debt, unfunded debt, and various guaranteed stocks amounted to £15,683,000; Indian stocks and loans and guaranteed railways, £8,768,000; colonial securities, £13,932,000; foreign, £8,338,000. Of the foreign securities, £3,843,000 is credited to America, about all the countries of Latin America being included. The bulk of these securities, however, are for the South American countries, the Argentine Republic being credited with £1,358,000; Brazil, £992,000; and Chile, £615,000.

INDIVIDUAL TAXPAYERS.

Since two-thirds of the tax is collected indirectly, it is not possible to give the exact number of individual income-tax payers as distinct from the number of assessments. In the income from businesses, professions, etc., for 1907 the number of assessments were as follows:

Persons, 476,404; firms, 58,049; public companies, 33,508; local authorities, 10,639; total, 578,600. There may be more than one assessment on the same person, firm, or company, as a person, for instance, may be carrying on two or more distinct businesses in different parts of the country, and the assessments are made in the districts where those businesses are situated.

ASSESSMENTS ON GROSS INCOMES.

To the figures above given are added employees under Schedules D and E; that is, of business firms and of the government and public companies, the former being 101,344 and the latter 417,845. This makes a grand total of assessments of 996,445, or close to the million mark for the two classes which are capable of classification, and the amount of gross income on which they paid the income tax was £615,801,000.

Keeping in mind that the number of assessments does not represent either total incomes from all sources or the number of taxpayers, an exhibit nevertheless may be had of the practical working of the income tax as applied to profits from businesses and to salaries from a detailed examination of the tabular exhibit of the 996,000 assessments which represented a gross income of £615,801,000. This shows assessments of persons, firms, public companies, and local authorities on gross incomes as follows:

Grade of income.	Number of assessments.	Gross amount of income.
Not exceeding £160, but not exempt	318,570	£22,841,134
Exceeding £160 and not exceeding £200	237,775	43,946,713
Exceeding £200 and not exceeding £300	205,914	52,105,397
Exceeding £300 and not exceeding £400	80,019	28,676,015
Exceeding £400 and not exceeding £500	44,176	22,509,034
Exceeding £500 and not exceeding £600	23,175	13,094,198
Exceeding £600 and not exceeding £700	13,811	9,127,473
Exceeding £700 and not exceeding £800	11,154	8,509,841
Exceeding £800 and not exceeding £900	6,350	5,457,305
Exceeding £900 and not exceeding £1,000	8,758	8,552,798
Exceeding £1,000 and not exceeding £2,000	23,032	33,758,188
Exceeding £2,000 and not exceeding £3,000	7,407	18,592,178
Exceeding £3,000 and not exceeding £4,000	3,803	13,376,481
Exceeding £4,000 and not exceeding £5,000	2,533	11,560,511
Exceeding £5,000 and not exceeding £10,000	4,831	34,909,592
Exceeding £10,000 and not exceeding £50,000	4,188	87,275,455
Exceeding £50,000	949	174,174,323

There was also £29,336,128 gross amount of income from agents, bankers, and coupon dealers deducting tax on behalf of the revenue, but this can not be given in terms of grades of income and numbers of assessments.

It may be noted that the assessments on incomes of £50,000 and upward, or on $250,000, include 20 individuals and 92 firms.

The national income of the United Kingdom is variously estimated by economists and statisticians at from £1,600,000,000 to £2,000,000,000 annually. Since gross income of more than £900,000,000 and net income in excess of £600,000,000 is brought under contribution it would appear that one-half the national income is subject to the tax and one-third pays it.

Recent history of the income tax is embodied in the finance act of 1907. Numerous changes were made by this legislation, some of them being on the recommendation of a select committee, which was appointed in 1906, to inquire into and report upon the practicability of graduating the income tax and of differentiating for the purpose of the tax between permanent and precarious incomes. The relief given to "earned" incomes up to £2,000 by a smaller rate of charge was the result of this recommendation. Among other recommendations of the committee was one that it should be made obligatory on every individual to fill up a form of return of income, even where the return would merely be a statement that the individual had no income directly chargeable to the tax. This was made effective. A recommendation for improvements in the methods of claiming allowance for depreciation and wear was also enacted. It was under the finance act of 1907 that the taxpayer was entitled to be charged on the actual profits made during the year, instead of on an average of those profits for the preceding three years, if he preferred that method.

In the budget submitted to Parliament for the current fiscal year by the Chancellor of the Exchequer the tax on unearned incomes is increased by 2 pence, making it 1 shilling 2 pence, and the tax on earned incomes over £2,000 is raised to 1 shilling. Persons earning under £500 a year are given a new abatement of £10 for every child under 16 years. On incomes exceeding £5,000 a year there is to be a supertax of 6 pence in the pound. The Chancellor estimated that the extra yield from the income tax proper would be £3,000,000, and from the supertax £2,300,000.

FRANCE.

ACT CONTAINS RADICAL INNOVATIONS AND IS VERY COMPLICATED.

The Paris edition of the New York Herald of March 14 contains an article reviewing the French income tax as it passed the Chamber of Deputies, from which the following information is compiled:

> This income tax does away with all direct taxation (house tax, land tax, etc.), but only so far as the State is concerned, as local dues, departmental and communal taxes, subsist as in the past; such taxes as those on carriages, horses, clubs, and billiards also subsist.
>
> In the place of the abolished direct taxes, the bill institutes a general tax on income of every category, to which is added a supplementary tax on the total income of every head of a family. This supplementary tax is due from all persons domiciled in or who, although domiciled abroad, have a residence in France. All persons having at their disposal a dwelling—presumably room, apartment, or house—either as owner or lessee, are considered as having a residence in France. The supplementary tax begins at 5,000 francs ($965). Of an income of 10,000 francs ($1,930) the tax begins at the second 5,000 francs, and of an income of 15,000 francs ($2,895) only 10,000 francs are taxed, etc.
>
> For persons domiciled in France the tax is calculated on all items of income. For persons domiciled abroad, but having a residence in France, within the meaning of the bill, the income is assumed to be seven times the rental value of their residence. In the case of persons not domiciled in France, but having sources of income in France, if the income obtained from these sources exceeds seven times the rental value of their residence, the tax is levied on the income from such French sources and not on their rental value.

The supplementary tax is progressive and therefore somewhat complicated, but the following example will show its workings:

A person with an income of 50,000 francs ($9,650) will pay the supplementary tax as follows: Exemption on first 5,000 francs; 1 per cent on second 5,000; 2 per cent on third 5,000; 3 per cent on fourth 5,000; 4 per cent on fifth 5,000; 5 per cent on the remaining 25,000; total tax on the 50,000 income, 1,750 francs ($337.75).

The calculation of the other portion of the income tax, on the items of income, is even more complicated in its application, such items being divided into seven categories: (1) Income from house property, 4 per cent; (2) income from land not built upon, 4 per cent; (3) income from capital (personal as opposed to real estate), 4 per cent; (4) profits from commercial and industrial undertakings, 3½ per cent; (5) profits from agricultural undertakings, 3 per cent; (6) salaries and pensions, 3 per cent; (7) incomes of persons in liberal professions or in occupations not covered by the foregoing categories, 3 per cent. In most of these categories a system of exemptions and deductions is established. When a taxpayer lives in a commune of 10,000 inhabitants and under, the tax on persons whose income is the product of their labor begins at 1,500 francs ($289.50); when such persons live in a commune having a population of from 10,000 to 100,000, the tax begins at 2,000 francs ($386); and in a commune having a population of over 100,000 the tax begins at 3,000 ($579).

Sources of income outside of France are not neglected. Bankers and others will be compelled to give details of all financial operations conducted for their clients when such operations entail payment of the tax, and employers of labor will have to indicate the sums paid by them to their employees.

EXAMPLES APPLICABLE TO PARIS.

The income tax does not remove local taxes. In Paris the local taxes are approximately the same as the state tax, so that Parisians will have to pay double the amounts given in the following statement of income, which gives only the state tax:

Category.	Income.		Income tax.	
	Francs.	*Dollars.*	*Francs.*	*Dollars.*
Product of labor	4,500=	868.50	0	0
Do	6,000=	1,158.00	25 =	4.82
Do	10,000=	1,930.00	160 =	30.88
Do	15,000=	2,895.00	410 =	79.13
Do	20,000=	3,860.00	710 =	137.03
Do	25,000=	4,825.00	1,060 =	204.58
Do	50,000=	9,650.00	3,050 =	588.65
Liberal profession	4,500=	868.50	7.5=	0.15

EFFECT ON FOREIGN RESIDENTS.

HOW THE TAX WILL AFFECT AMERICANS RESIDING IN FRANCE.

In furnishing the following additional information on the French income tax, which has passed the Chamber of Deputies, as it will affect Americans residing in France, Consul-General Frank H. Mason, of Paris, reports that the senate commission will occupy at least a year in its final consideration, so that it will hardly take effect before the beginning of 1911:

The feature of the new law which will most directly affect a large number of Americans is the method of estimating the income of each head of a family which, although domiciled in any other country, has a residence in France. For the purposes of the law, all persons occupying a leased dwelling room, flat, or house for a period of one year or more are subject to the supplementary tax, based upon an income which the law will assume to be seven times the amount of the rental paid for such habitation. The tax on this assumed income is progressive, according to the following scale, in which, for convenience, 5.000 francs will be considered equal to $1.000 (although the actual value of the franc is 19.3 cents).

A person with an income of 50,000 francs ($10,000) will pay the supplementary tax as follows: First 5,000 francs, exempt; second 5,000 francs, 1 per cent=50 francs; third 5,000 francs, 2 per cent= 100 francs; fourth 5,000 francs, 3 per cent=150 francs; fifth 5,000 francs, 4 per cent=200 francs; remaining 25,000 francs, 5 per cent= 1,250 francs; total tax, 1,750 francs=$337.75.

Take, as another example, the very frequent case of an American family living in Paris for purposes of health, education, or enjoyment, and paying for a flat of 8 rooms an annual rent of 5,000 francs. The income of such a family would be assumed by the law to be 35,000 francs ($6,775). The real income may be much less than that, for, as a matter of fact, Americans, as well as others, pay one-fifth or even one-fourth of their incomes for rent, thereby securing residence in a desirable quarter, and practice economy in other items. All the same, however, the income of a family paying 5,000 francs as annual rent would be assumed to be not less than 35,000 francs, the tax on which would be 1,000 francs ($193), provided this income-tax law shall be finally enacted with that portion of the statute unchanged from its present form.

When an American living in France practices his profession or is engaged in other business as a means of earning money, he becomes, of course, subject to the other taxes and contributions that pertain to French citizens. [Copy of the full text of the act as adopted by the Chamber of Deputies is on file in the Bureau of Manufactures.]

BRITISH INHERITANCE TAXES.

AMOUNT OF REVENUE COLLECTED AND THE BASIS OF TAXATION.

Special Agent Charles M. Pepper, writing from London, transmits the following report on the revenue derived by the British Government from death duties, or inheritance taxes. The statistics, with few exceptions, are presented in English monetary values, the pound sterling equaling $4.8665 in American currency:

The amount of the graduated death duties, or inheritance taxes, collected in the United Kingdom, which has a population of 44,000,000 and upward, ranges from $90,000,000 to $95,000,000 annually out of a total internal revenue of $470,000,000 to $480,000,000. It is drawn from more than 67,000 estates. The revenue from the death dues is a little more than half that from excise imposts, and considerably more than half the amount realized from the income tax. In the fiscal year 1908, for example, the revenue, in round terms of English currency, was: From estate duties, £19,363,000 ($94,230,039); excise duties, £37,033,000 ($180,221,094); income tax, £34,659,000 ($168,668,023).

The gross capital value of the estates contributing to these taxes in 1908 was £313,898,584 ($1,527,587,459), and the net £282,294,164 ($1,373,784,549). The gross value of the personality was £228,704,720 ($1,112,991,519), and of the realty £85,193,869 ($414,595,962). The net capital value is arrived at by deducting debts, etc., from the gross. The value of the estates exempt from duty on account of not exceeding £100 net value was £1,798,495 ($8,752,375), so that the total gross value was £315,697,079 ($1,536,339,834). This excluded insolvent estates.

NUMBER AND NET CAPITAL VALUE OF ESTATES.

The number and the net capital value of the estates are shown in the following table, which also exhibits the percentage proportion of the different gradations of estates to the total:

Class.	Number.	Value.	Percentage proportion to total.
Small estates not exceeding £300 gross value	19,340	£3,724,799	1.3
Small estates exceeding £300, but not exceeding £500 gross value	9,736	3,875,654	1.4
NET VALUES.			
Exceeding £100, but not exceeding £500	6,374	2,976,762	1
Exceeding £500, but not exceeding £1,000	10,782	9,109,695	3.2
Exceeding £1,000, but not exceeding £10,000	17,356	65,373,454	23.2
Exceeding £10,000, but not exceeding £25,000	2,341	40,296,583	14.3
Exceeding £25,000, but not exceeding £50,000	908	35,492,736	12.6
Exceeding £50,000, but not exceeding £75,000	278	19,768,430	7
Exceeding £75,000, but not exceeding £100,000	144	13,972,044	5
Exceeding £100,000, but not exceeding £150,000	109	16,452,521	5.8
Exceeding £150,000, but not exceeding £250,000	90	18,748,470	6.6
Exceeding £250,000, but not exceeding £500,000	51	20,085,917	7.1
Exceeding £500,000, but not exceeding £750,000	11	10,446,025	3.7
Exceeding £750,000, but not exceeding £1,000,000	6	6,191,976	2.2
Exceeding £1,000,000, but not exceeding £1,500,000	4	4,592,039	1.6
Exceeding £1,500,000, but not exceeding £2,000,000	....	2,208	....
Exceeding £2,000,000, but not exceeding £2,500,000	1	2,546,065	.9
Exceeding £2,500,000, but not exceeding £3,000,000	....	19,590	....
Exceeding £3,000,000	2	8,619,196	3.1
Total	67,533	282,294,164	100

These figures include both realty and personalty.

The total number of estates not liable to duty was 18,138, of which 1,663 were insolvent estates, and the balance were estates not exceeding £100 net capital value.

DIVISION OF TAXES AND RATES OF ESTATE DUTIES.

The division of the inheritance taxes is into estate, probate, accounts, legacies, succession, and corporation duties. In 1908 the revenue from these different sources, in round numbers, was: Estate duty, including settlements, £14,359,587; legacy, £3,908,601; succession, £732,437; probate, £43,889; corporation, £51,520; account, £4,985; temporary estate duty, £7,237. It will therefore be seen that the bulk of the revenue is from the estate duty proper, though legacies furnish a valuable source of income.

The rates of the estate duties now in force are as follows:

Where the net principal value of the estate—	Rate of duty.
	Per cent.
Exceeds £100, and does not exceed £500	1
Exceeds £500, and does not exceed £1,000	2
Exceeds £1,000, and does not exceed £10,000	3
Exceeds £10,000, and does not exceed £25,000	4
Exceeds £25,000, and does not exceed £50,000	4.5
Exceeds £50,000, and does not exceed £75,000	5
Exceeds £75,000, and does not exceed £100,000	5.5
Exceeds £100,000, and does not exceed £150,000	6
Exceeds £150,000, and does not exceed £250,000	7
Exceeds £250,000, and does not exceed £500,000	8
Exceeds £500,000, and does not exceed £750,000	9
Exceeds £750,000, and does not exceed £1,000,000	10

On all estates of over £1,000,000 the following rates are in force:

Where the net principal value of the estate—	Rate of duty on— First £1,000,000.	Rate of duty on— The remainder.
	Per cent.	*Per cent.*
Exceeds £1,000,000, and does not exceed £1,500,000.	10	11
Exceeds £1,500,000, and does not exceed £2,000,000.	10	12
Exceeds £2,000,000, and does not exceed £2,500,000.	10	13
Exceeds £2,500,000, and does not exceed £3,000,000.	10	14
Exceeds £3,000,000.	10	15

* Settled property is subject to a further estate duty of 1 per cent, called settlement estate duty.

Small estates where the gross value does not exceed £300, a fixed duty of 30s., inclusive of all other death duties.

Small estates where the gross value exceeds £300 and does not exceed £500, a fixed duty of 50s., inclusive of all other death duties.

Estates not exceeding £100 net are exempt.

CLASSIFICATION OF CONTRIBUTORY WEALTH.

The nature of the wealth which is made to contribute to the revenues through the estate duties can only be understood from the detailed statement under the different classifications of the gross capital value of personalty situated in the United Kingdom, and the groups are therefore given in full. They are as follows:

1.	Stocks or funds of the United Kingdom	£9, 129, 240
2.	Stocks, funds, or bonds of foreign countries, British dependencies and colonies	11, 159, 441
3.	Proprietary shares or debentures of public companies	96, 670, 943
4.	Cash in the house	609, 853
5.	Cash at the bank	18, 706, 117
6.	Money out on mortgage	13, 457, 363
7.	Money out on bonds, bills, notes, and other securities	5, 823, 279
8.	Book debts	2, 331, 802
9.	Other debts	4, 045, 325
10.	Unpaid purchase money of real and leasehold estate contracted in lifetime of deceased to be sold	383, 984
11.	Deceased's interest in proceeds of sale of real estate directed by settlement to be sold	297, 002
12.	Personal estate over which the deceased had and exercised an absolute power of appointment	1, 776, 568
13.	Policies of insurance on the life of the deceased, or on that of any other person, and bonuses thereon	8, 300, 173
14.	Salable value of policies of insurance and bonuses on the life of any person other than the deceased	210, 930
15.	Household goods, pictures, china, linen, apparel, etc	6, 864, 075
16.	Stock in trade and farming stock	5, 760, 757
17.	Good will	889, 465
18.	Ships or shares of ships	487, 004
19.	Share of deceased in real and personal estate as partner in a firm	13, 173, 227
20.	Deceased's expectant interest under will	2, 144, 582
21.	Deceased's expectant interest under settlement	721, 661
22.	Personal estate not classified	2, 092, 287
23.	Income due—i. e., rents, profits, dividends, and interest—to date of death	2, 523, 337
	Total gross capital value	203, 373, 841

The personalty abroad subject to duty shows some curious fluctuations. In 1899 it was £4,196,398, and in the succeeding year it rose to £15,715,953, dropping in 1901 to £3,414,915. Then it mounted to £8,693,608, and ranged down and up until in 1908 it was £4,169,402.

LEGACY AND SUCCESSION DUTIES.

The rates of duties for legacies are as follows:

	Per cent.
To a child or descendant of a child of the deceased, or father or mother, or any lineal ancestor of the deceased	1
To a brother or sister of the deceased, or any descendant of a brother or sister	3
To an uncle or aunt of the deceased, or any descendant of an uncle or aunt	5
To a great uncle or aunt of the deceased, or any descendant of a great uncle or aunt	6
To any other person	10

The net capital value of the legacies from which the dues were collected in 1899 was £65,790,000, and in 1908, £81,308,000.

The net receipts in 1899 were £2,873,091, and in 1908, £3,908,601.

Succession duties where the whole succession derived from the same predecessor amounts to £100 or upward are as follows:

	Per cent.
By a child or descendant of a child of the deceased, or father or mother, or any lineal ancestor of the deceased	1.5
By a brother or sister of the deceased, or any descendant of a brother or sister	4.5
By an uncle or aunt of the deceased, or any descendant of an uncle or aunt	6.5
By a great uncle or aunt of the deceased, or any descendant of a great uncle or aunt	7.5
By any other person	11.5

The succession duty in 1899 was realized on a total capital valuation of £20,027,000, of which £16,022,000 was realty and £4,005,000 was personalty. In 1908 the total was £18,330,000, of which £14,664,000 was realty and £3,666,000 personalty. The net receipts in 1899 were £751,227, and in 1908, £732,437.

The nature of the realty which contributes to the duties is varied, but agricultural land furnishes less of the total than household property and business premises. For 1908 the net value of household property and business premises was £28,137,000, while in agricultural land it was a trifle under £17,000,000. Leaseholds were valued at £9,100,000, and ground rents at £3,845,000. Other items exceeding £1,000,000 were building lands; mines, minerals, and quarries; cessers of annuities; and sporting rights. Real estate not classified was a fraction under £2,000,000.

EXCHEQUER AND LOCAL TAXATION ACCOUNTS.

The relation of the imperial treasury, or the exchequer, to the localities is an important feature of the death duties. Allocation is made to the exchequer and to local taxation accounts in accordance with fixed principles. For example, out of total net receipts of, say, $90,000,000, the exchequer will receive $65,000,000 and the local taxation accounts $25,000,000. The aggregate for the ten-year period from all death duties as allotted to the exchequer and local taxation accounts, respectively, has been as follows:

Fiscal year—	Net receipts.		
	Due to the exchequer.	Due to the local taxation accounts.	Total.
1898-99	£11,486,818	£4,245,760	£15,732,578
1899-1900	13,909,313	4,499,980	18,409,293
1900-1901	12,483,262	4,237,867	16,721,129
1901-2	14,230,827	4,282,887	18,513,714
1902-3	13,711,675	4,201,502	17,913,177
1903-4	13,034,946	4,291,191	17,326,137
1904-5	13,010,875	4,247,556	17,258,431
1905-6	12,968,082	4,376,843	17,344,925
1906-7	14,262,824	4,695,939	18,958,763
1907-8	14,627,387	4,480,867	19,108,256

The legislation governing the estate duties was codified and remodeled in 1907, taking the acts of 1894 and subsequent years as the basis for the new legislation. The legislation governing the legacy duties dates back to 1805. In the finance act of 1907 a new principle was introduced, and each estate exceeding £1,000,000 was subjected to two rates of estate duty; that is, a rate of 10 per cent on the first million pounds and a higher rate per cent on the remainder. This higher rate ranges from 11 to 15 per cent; that is, on an estate between £1,000,000 and £1,500,000 it is 11 per cent on the excess over £1,000,000 and on an estate exceeding £3,000,000 it is 15 per cent on the excess over £1,000,000. This act also raised the rates of estate duty on all estates above £150,000. The aim was to reach progressively the great fortunes somewhat in proportion to their growth. In 1908 the number of estates, including both personalty and realty, valued at more than £250,000 was 75, while in the previous year the number was 86.

WHERE THE BULK OF THE TAX IS DERIVED.

It will be noted from the table of net capital values and percentage proportions for 1908 that estates ranging from £1,000 to £10,000 formed 23.2 per cent, or nearly one-fourth of the contributions, and those included in the two classes of £10,000 on to £50,000 together formed 26.9 per cent, or more than one-fourth. Detailed analyses through a series of years show that about 4,000 estates each year are above £10,000 and pay the bulk of the inheritance taxes. In 1908 there were 3,915 estates of £10,000 each and upward, the total net capital value of which was £197,200,000 out of the grand total of £282,294,000 for all estates.

For a series of years the returns on estates of £10,000 and upward have been as follows:

Fiscal year.	Estates.	Property.	Fiscal year.	Estates.	Property.
1899-1900	4,227	£210,700,000	1904-5	3,912	£186,600,000
1900-1901	3,871	184,800,000	1905-6	3,924	195,700,000
1901-2	3,839	213,100,000	1906-7	4,172	218,200,000
1902-3	3,829	190,700,000	1907-8	3,945	197,200,000
1903-4	3,768	186,900,000			

The administrative machinery for carrying out the tax is a division of the inland revenue and is quite elaborate.

FRENCH SAVINGS BANKS.

THEIR WORKINGS IN RELATION TO INVESTORS AND INVESTMENTS.

Further information on the savings banks of France being desired by a Chicago banking house, Consul-General Frank H. Mason, of Paris, has prepared the following report:

Savings banks in France are of two general designations: (1) Postal or government banks, which are established throughout the country and are under direct control of the National Government, and (2) municipal and private savings banks, which are owned and managed by municipal governments and by private firms, under charters which hold such institutions to strict account, not only for all deposits made with them, but for the manner in which such funds are invested and accounts kept with depositors.

POSTAL SAVINGS BANKS.

The latest available statistics give the number of postal savings banks in operation at 7,883, with total deposits during the year 1906 of $98,872,927 and withdrawals amounting to $93,349,610, leaving a balance of $5,523,317 as excess of deposits over withdrawals during the year. The total sum of deposits, including interest, due depositors on December 31, 1906, was $258,374,734. The total number of depositors was 3,977,755 and the average amount of their deposits a fraction over $64.95.

The postal savings banks pay interest on deposits of from 1 franc to 1,500 francs (19.3 cents to $289.50) at the rate of 2½ per cent (compound), and the total amount of interest credited to depositors in 1906 was $6,147,691.

When a depositor's account exceeds 1,500 francs ($289.50) the bank will invest the surplus in "rentes" or national 3 per cent bonds, keep them on deposit if desired, collect the coupons when they fall due, and credit the interest so received to the account of the depositor. The bank buys these bonds at the current market price on the Bourse (which on March 8, 1909, was 97.25 francs = $18.77) but credits the depositor with 3 per cent interest at par.

The total revenues of the postal savings banks of France during the year 1906 was $7,874,455, from which there was credited interest to depositors amounting to $6,147,691, leaving a surplus of $1,726,764 applicable to the expenses of administration.

MUNICIPAL AND PRIVATE SAVINGS BANKS.

Municipal and private banks are classified in the official statistics under one general head, "Caisses d'Épargne privées," and include savings banks owned and operated by municipalities and those belonging to private firms or corporations. They are based on a statute which was enacted on June 5, 1835, and modified by amendments on March 31, 1837, and June 22, 1845.

Operations were begun in 1835, with 155 banks and 55 branch offices, which had increased at the close of 1904 to 550 municipal and private savings banks, with 1,461 branch offices; in all, 2,011 places of deposit, with 7,422,326 depositors, and deposits, including interest due on December 31, amounting to $626,500,590. The average sum of each deposit account varies with the prosperity of the people and other conditions, and was at the close of 1884, $118.77, while during the hard times of 1857 it had been down to $54.93, and closed on December 31, 1904, at $84.41.

Municipal and private savings banks pay interest on deposits at rates varying from 2 to 3 per cent, according to the length of time that the deposit is left intact without being drawn upon or reduced. Each depositor in a municipal or private savings bank is furnished with a deposit book in which a copy of the account is kept, and he may at any time have his account transferred from one bank to another. Books of deposit are exempt from the stamp taxes which apply to ordinary banking operations.

A pamphlet publication, compiled by the Ministry of Commerce, and containing the full official text of all laws relating to municipal, private and postal savings banks, arranged in chronological sequence, with statistical tables and diagrams showing the operations of both classes of savings banks down to the close of 1902, is transmitted as supplementary exhibit with this report [on file in the Bureau of Manufactures].

GERMAN CORPORATION RETURNS.

REDUCTION OF EARNINGS OF STOCK COMPANIES FOR LAST YEAR.

Writing from Chemnitz, Consul Thomas H. Norton says that the returns of the joint stock companies of Germany on the results of their business during 1908 offer the best available data to sum up the economic movement in the Empire, and measure the extent to which it has been affected by the crisis at the close of 1907. He therefore reviews the results for last year:

The annual reports of these companies are collected by the central registry office in Berlin, which has issued a statistical summary, covering the business done by 4,731 corporations. These latter have furnished complete statements on the profit or loss of the year's transactions. A considerable number of other companies supplied imperfect or inadequate data. It is to be noted that the business years of most corporations do not correspond with the calendar year. The reports cover periods of twelve months, terminating at some date in 1908.

The 4,731 corporations in question have a total capital of $3,198,700,000. Of this number, 626 companies, with a capital of $165,726,000, reported losses amounting in the aggregate to $27,112,000, or 16.4 per cent on the capital. The remaining 4,105 companies, with a total capital of $3,032,974,000, reported net profits amounting to $397,460,000, or 13.1 per cent on the capital.

After balancing profits and losses the net return on the capital of the 4,731 companies for 1908 was 11.58 per cent. For the preceding year it was 12.01 per cent. With regard to class of business, the corporations are divided as follows:

Class.	Number	Capital.	Profits.	Per cent of capital.
Industrial	3,359	$1,849,800,000	$223,400,000	12.2
Commercial and banking	618	912,500,000	121,488,000	12.8
Transportation	396	358,200,000	24,000,000	6.4
Miscellaneous	328	48,200,000	1,460,000	3.0
Total	4,731	3,198,700,000	370,348,000	11.58

In regard to dividends only 3,535 companies made complete reports. They represented a nominal capital of $2,927,000,000. The average dividend on this capital was 8.1 per cent, as compared with 8.5 per cent in the preceding year. Industrial corporations showed the greatest shrinkage in the dividend rate, viz, 0.5; commercial the least, viz, 0.1.

The percentage of dividends to current value of stocks is naturally quite different from the above. The average stock quotations at Berlin in 1908 were: Industrial securities, 181.42; commercial and banking securities, 156.58; transportation securities 106.78. Dividends were paid as follows:

Class.	Per cent on nominal capital.	Per cent on stock exchange value.
Industrial securities	9.0	5.0
Commercial and banking securities	7.9	5.0
Transportation securities	5.2	4.9

From these data it is evident that the German investor in the securities of stock companies counts upon an average return of 5 per cent in interest. The figure is materially higher than in England or France.

BANK CLERKS' PENSIONS.

GERMAN ORGANIZATION FOR GIVING INSURANCE TO EMPLOYEES.

Vice-Consul-General Charles A. Risdorf, of Frankfort, forwards an announcement of the Central Union of German Banks and Bankers regarding the proposed organization for providing old-age and disability pensions for bank officials and bank clerks, annuities for their widows, and education for their orphans. He also sends copies of the statutes, from which the following is derived:

Some large banks in Germany now pension their employees out of their own funds, but the desirability of a more general establishment by banks of a system of insurance among employees which would be independent of the government institutions has been recognized, not only by the banks and their employees, but also by the German Bundesrat. The system provides that all bank employees shall be classified according to the salaries received, 12 classes having been established. The premium is fixed at 8.5 per cent of the average annual salary of the given class, four parts of which are to be paid by the employees and four and one-half parts by the banks. A pension is to be paid to the insured employee in case of permanent disability. From his 65th year on the insured person is also to receive a pension whether or not he has retired from his post. The widows of insured employees will receive annuities and their orphans sums for education.

The following cases will serve to show the actual premiums paid: In Class I, the lowest, embracing all annual salaries up to $131, the average income upon which insurance is computed is $100, and the monthly premium is 71 cents, 37 cents of which the bank pays, while the employee pays 34 cents. In Class VI, comprising incomes ranging from $428 to $571, the average income forming the basis is $500, the monthly premium $3.55, of which $1.89 is the bank's share and $1.66 that of the employee. In the highest class, incomes of $1,666 and all above this, $1,856 is taken as the average, and the monthly premium is $13, of which $7 falls upon the bank and $6 upon the employee.

The example which follows shows the result in a given case: An employee becoming insured at the age of 25 years and having an annual salary of $476, which was increased $95 at the expiration of each 5 years of service, up to the highest sum, $1,142, would receive after 10 years' service an annual pension of $100; after 20 years' service, $206 annually; 30 years', $325; and 40 years', $450, these sums being, respectively, 19, 33.3, 45.5, and 56.7 per cent of his average annual income for the periods named. These pensions are, with the exception of that granted after but 10 years of service, larger than those paid under the government pension system, the percentages of the average annual income for the corresponding periods being in the case of government pensions 19, 28, 36, and 45, respectively.

The firms giving their adherence to this agreement contract to insure all of their employees for at least 10 years.

[The pamphlets relating to the foregoing subject, printed in German, may be seen at the Bureau of Manufactures.]

BRITISH OLD-AGE PENSIONS.

APPROVED BY THE CHAMBERS OF COMMERCE OF THE UNITED KINGDOM.

At the annual meeting of the Association of Chambers of Commerce of the United Kingdom, held in London on March 2, 3, and 4, the president of the association, Lord Brassy, in his opening address, as given in the Chamber of Commerce Journal, dwelt at considerable length on industrial legislation, having for its object the maintenance of good relations between the workers and their employers, the sweated industries, and old-age pensions. In regard to sweatshops he said: "There is a general sense that an effort should be made to prohibit the employment of helpless and unorganized labor at starvation wages, and when we remember that it is chiefly women who suffer from these hard and hopeless conditions, our sympathies are more deeply engaged." The president's reference to old-age pensions, which were as follows, are still more interesting and pronounced:

The act lately passed giving pensions to the aged poor is not a party measure. Many regret that we have not dealt with pensions, as in Germany, on a contributory basis. In Germany the working man and his employer offered no resistance to this arrangement. The English are not a docile people. With us it would have been impossible to carry through a compulsory scheme. Nor in any country would it be practicable to compel contributions from the poorest classes. The improvement of their hard lot is the chief concern of the statesman. When we learn from the report of the poor-law commission that in the State of Hamburg alone there are 113 relief committees and 1,513 alimoners, we have conclusive proof that vast numbers of the poor have not benefited—nor indeed is it possible that they should benefit—from a plan of pensions based on contributions.

With our ample resources we are not crippling ourselves unduly in undertaking to pay pensions to the aged poor, nor is it probable that such expenditure will be without compensation. [Hear, hear.] There is reason to believe that the number of the aged in the workhouses will be greatly reduced. An illustration may be given. When I first joined the admiralty, a committee had recently reported on the administration of Greenwich Hospital. The report contained a suggestion that outdoor pensions should be offered. This suggestion was adopted. Note the result. We had 2,000 pensioners in residence at Greenwich. They were maintained in comfort; they were surrounded by inspiring associations. But there can be no joy in the set gray life of a public institution, however splendid. Of the 2,000 inmates, 800 had left Greenwich at the end of one month. At the end of two months every man had gone except a few who were bedridden in the infirmary. If pensions largely diminish the number in workhouses, the effect must be to lessen the local burden of the poor rates.

EDUCATION.

TECHNICAL AND OTHER SCHOOLS.

URUGUAY.

SCHOOL OF COMMERCE ESTABLISHED IN UNIVERSITY OF MONTEVIDEO.

Vice-Consul Charles Lyon Chandler, of Montevideo, forwards the following account of the progress of commercial education in Uruguay:

The first step toward systematically organizing and developing the courses in accounting, which had been given previously at the University of Montevideo, into an effective programme of commercial education was taken by Dr. Claudio Williman, the rector of the university, who in October, 1903, submitted a plan to the Government for the organization of a faculty of commerce in the university. His plan was approved, and in March, 1904, the faculty began its work. The new courses of instruction proved so popular, and aroused so much interest in commercial education throughout Uruguay, that Dr. Williman, now President of the Republic, who still takes great interest in educational matters, raised the faculty of commerce by presidential decree on December 31, 1908, to the rank of a School of Commerce. The same decree also provided for a dean, a director, and a board of overseers for the school, the latter to be composed of six persons, five to be business men and one a professor in the school. The school is authorized to confer higher scientific degrees. This reorganization is now being actively carried out by the university authorities, who are studying closely the organization of similar institutions in the United States and Europe.

Many friends of the new school hope that this reorganization will make it a post-graduate institution, instead of being merely a school of the university, as at present. It is also hoped that more time can be given to consular instruction and the methods of extending Uruguayan commerce. The institution is at present in a state of transition, but it is expected that the reorganized and amplified branches of study will follow the same lines as did those taught heretofore.

PRACTICAL WORK OF THE FACULTY OF COMMERCE.

There are now 13 professors in the faculty of commerce, all of whom are well qualified men, while those giving the more practical courses have had much business experience. The studies at present taught prepare for two distinct fields of mercantile usefulness, viz, accountants, who are required to pursue the first two years of study, and need not take any foreign languages; and trained business men, for whom the entire three years' course is required.

Besides the ordinary studies of bookkeeping, commercial law, etc., taught in every business school, there are courses of office practice, accounting and mercantile operations, science of business, commercial geography, financial customs and consular legislation, and three years each in English and French.

It is the endeavor of the rector and professors of the University to have these courses given in the most practical and businesslike manner, teaching the students from the first to think and act for themselves. They invite suggestions from all interested in this important field of education, wishing all Uruguayans to take a patriotic pride in the success of this national institution. In this they have been successful. To illustrate the practical manner in which the various subjects are taught, the students in the first course in business administration visit the chemical laboratory in the department of secondary instruction, to perform practical experiments there; and in the second course in the same subject, the students, who are divided into groups for the purpose, also perform laboratory exercises under the direction of one of the professors. In each of the various business courses the students conduct a model office, keeping all the ledgers and other books ordinarily in a modern business establishment. As far as possible only useful, practical business English and French are taught in the language courses. The practical equality which English and French share in the curriculum is well worth noting. Nor are educational excursions neglected; the professor of "practice in office work," Señor D. Louis A. Mainero, takes his pupils on an annual educational visit to Buenos Aires to study the varied commercial activities of that important trade center.

AUSTRALIA.

MELBOURNE UNIVERSITY NOW PROVIDES A VETERINARY COURSE.

Consul John F. Jewell reports that in keeping with the high standards of instruction in other departments of the Melbourne University the veterinary committee has drafted proposed regulations for the establishment of a faculty of veterinary medicine, and a degree and a license in veterinary medicine at that institution. The requirements are as follows:

These provide that candidates for the degree of bachelor of veterinary medicine shall, after matriculation, pass five examinations and complete five years of study. During the first year candidates must attend lectures, do laboratory work, and pass examinations in natural philosophy, part 1; biology, part 1 (zoology and botany); and chemistry, part 1. No candidate shall enter upon the examination for his second year unless he has studied and passed examinations in organic chemistry, part 1, and histology, and during the second year students will be required to take and pass examinations in histology (two terms), physiology, equine anatomy, and comparative anatomy of the domesticated animals. In the third year they must take pathology with bacteriology, agricultural botany with mycology, veterinary hygiene and dietetics (two terms), and pharmacology and pharmacy (two terms), and in the fourth year parasitology (two terms), veterinary surgery, veterinary obstetrics (one term), and veterinary medicine.

Before completing the fourth year, however, candidates must produce certificates showing that they have received instruction in and attained a practical knowledge of stable management, manipulation

of domesticated animals, principles of shoeing, meat inspection, and examinations for soundness, and also received instruction in veterinary practice during two years under conditions previously approved by the faculty. Candidates who have completed the fourth year may be admitted to the license in veterinary medicine.

During the fifth year candidates must attend lectures, laboratory and field work, and pass examinations in advanced pathology and bacteriology, and state and municipal sanitary science. They must also attend such hospital practice as may be determined by the faculty.

FRANCE.

GRADED TECHNICAL SCHOOLS FOR SILK INDUSTRY.

Consul John C. Covert, of Lyon, sends the following account of a project for the establishment of a weaving and embroidery school in the interests of the French silk industry:

During some years past a project has been under consideration to establish a national weaving and embroidery school in Lyon, and the Minister of Commerce, Mr. Cruppi, has recently taken up the subject and proposes that the National Government at Paris shall act with the municipality of Lyon in the premises. It is proposed that the latter contribute $193,000 to the enterprise. The Minister of Commerce has set forth in a recent statement his plan of organization and conduct of the school as follows:

> It will be necessary at first to provide for the apprenticeship of young men who wish to engage in the manufacture as a life business. This would include a course of apprenticeship for hand and steam looms for warpers, designers, setters on card, readers, piqueurs, and monteurs.
>
> There should be a complete and progressive apprenticeship, including such a technical knowledge as will enable the workman to carry on his trade intelligently. Parallel with this, an analogous organization should furnish the same instruction to the departments of dyeing, preparing, printing, embroidery, and the machinery used in weaving.
>
> A higher department, which might be called the superior section of technical instruction, should receive future manufacturers, mill owners, overseers, samplers, young men from 17 to 20 years of age, already possessing solid elementary instruction and a fund of technical information which would permit them to assimilate rapidly the knowledge of the art of manufacture in all its branches and to make new designs. This organization should be supplemented by courses of lectures intended to promote elementary improvement and to increase the fund of information of the workingmen and apprentices who were unable to attend the school before going to work in the factory. The school would thus popularize all knowledge useful to manufacturers or workmen in the silk industries. Boarding and day pupils will be received in the school.

ITALY.

NATIONAL COLLEGES FOR DISSEMINATING EXPERT KNOWLEDGE.

Consul Jerome A. Quay reports that at Florence there are three agricultural schools, all of them located at the Cascine park. He describes these Italian institutions as follows:

The first building is especially adapted for the study of gardening. This model school is the only one of the kind in Italy and accepts also foreign students. The instruction, both practical and manual, is extended to all work which is performed within hothouses, orchards, and gardens. After the pupils have undergone a certain amount of preliminary instruction they are taken to the orchards, then to the kitchen gardens, and thence to the flower gardens and hothouses, where they have practical instruction in the pruning of fruit trees, grafting of ornamental and fruit trees and domestic and American vines, sowing and transplanting, preparing, keeping, and planting of seeds, preparation of vegetables for the market, forced cultivation of fruits and vegetables, cultivation in hothouses, tepidarium and open-air culture of ornamental trees, plants, etc., and by this means the pupils acquire the necessary experience and skill in their profession. The second building is for girls. The teaching comprises: Agronomy, floriculture, gardening, poultry breeding, bee-keeping, the culture of silk cocoons, dairy in housekeeping, cooking, sewing, and dressmaking, as well as a general course of school instruction.

The scholars come from the better class of society, and when they have obtained their degree, which can be accomplished in about three years, it is the purpose of the school to send its graduates through the principal agricultural districts of Italy to disseminate their knowledge among the country folk who are interested in the cultivation of fruits, vegetables, and general farm products.

The third and last building is occupied by the Agricultural Colonial Institute founded by Prof. Gino Bartolommei Gioli, who lived for many years in Italian Africa. The school course comprises the teaching of colonial farming, the rearing and management of live stock, poultry breeding, felling of timber, etc., especially for young men who wish to settle in the Italian colony of Africa.

GERMANY.

PLANS FOR ESTABLISHMENT OF A NATIONAL CHEMICAL LABORATORY.

Consul-General Richard Guenther, of Frankfort, advises that an association has been formed in Germany for the purpose of establishing a national chemical laboratory. A fund of 1,000,000 marks ($238,000) is to be raised for erecting a suitable building with the requisite equipment. The board of directors of the association is requesting the Federal Government to support the new institution by an annual subvention of 100,000 marks ($23,800). The state Government of Prussia has tendered a site for the building free of cost. Germany being foremost among nations in chemical and medical science, the new laboratory will no doubt become renowned and of great practical value, attracting students from all parts of the world.

JAPAN.

MEDICAL EDUCATION AND STATUS OF FOREIGN PHYSICIANS.

In response to an American inquiry Consul George H. Scidmore, of Nagasaki, sends a report on medical schools and laws applying to the practice of medicine in Japan from which the following extracts are taken:

Medical colleges are located at Tokyo, Kioto, Fukuoka, Chiba, Sendai, Okayama, Kanazawa, Nagasaki, Aichi, and Kumamoto. Students are required to have from eleven to twelve years of work in the elementary and middle schools before they are admitted to ordinary medical colleges, and in case of admission to the medical colleges of Tokyo, Kioto, and Fukuoka universities, students are required to pursue three additional years' study in the higher schools.

Graduates from the imperial universities and other approved medical schools must secure a license from the Minister of Home Affairs before they begin to practice. A graduate of a foreign medical school or a holder of a physician's license, coming from a country that licenses Japanese physicians without examinations, may be licensed by the Minister of Home Affairs. No person may practice medicine who has been convicted of felony, who is deprived of civil rights, or who has been sentenced to imprisonment or fined in connection with medical practice. For ten years books must be kept by physicians, and the names, ages, residences, professions, and the names of diseases of patients and the method of treatment applied to them must be entered therein. Physicians can not make a false advertisement by boasting of their talents, nor can they advertise as having a secret method of treatment. [The other features of the law relating to physicians and the practice of medicine are on file in the Bureau of Manufactures.]

BRITISH INDIA.

STUDENTS BEING SENT ABROAD FOR INDUSTRIAL EDUCATION.

The Indian Trade Journal states that at a meeting of the committee of the Association for the Advancement of Scientific and Industrial Education of Indians held in Calcutta in February, 100 students were selected for industrial education in foreign countries this year. Twenty scholarships ranging from $8 to $35 gold per month with passages were granted, and 80 more students were granted only passages. The scholars include some of the most brilliant graduates of the university.

CANADA.

MALE TEACHERS DECREASING—AMERICAN TEXT-BOOKS LOSING.

Consul H. D. Van Sant, of Kingston, notes the following changes in the schools in Canada:

In the Province of Ontario the number of male teachers in the public schools is perceptibly decreasing. In 1907 there were 1,201 male teachers in the rural schools as against 4,837 female teachers. In the urban schools the number was 582 men as against 3,273 women. In 1906 the percentage was 19.08, and it fell to 18.02 in 1907. The total expenditure in primary schools was $7,556,179, an increase of $1,152,973 over the previous year, while the expenditures on high schools and collegiate institute were $1,213,696, an increase of $184,403. The amount expended in teachers' salaries in primary schools was $4,389,524.

The school system is largely on the line of the American common schools, although the English rule of spelling is adhered to by a majority of the teachers. Formerly American text-books and histories were largely in use, but these are being supplanted by Canadian or English versions.

MEXICO.

COUNTRY'S FIRST MODERN NORMAL SCHOOL OPENED AT SALTILLO.

Consul Thomas W. Voetter, of Saltillo, gives the following account of a new Mexican college for training teachers:

The inauguration of the new normal school building at Saltillo on February 5 marks an epoch in the history of education in Mexico, as this is stated to be the first normal school built on modern plans to be completed in the Republic. The edifice was erected by the State of Coahuila at a cost of more than $150,000 United States currency, is of brick and cut stone, and comprises two stories and basement. Including the normal pupils, business classes for girls, and the various practice classes of primary pupils, the authorities of the school expect that over five hundred pupils will receive instruction in the building. The building is well equipped with a large gymnasium, chemical and physical laboratories, music rooms, etc., while workrooms for manual training are also provided. Domestic science instruction is also provided for the girls, many of whom are pensioned by the state government while they are pursuing their instruction.

The completion of this building for the training of teachers for the public schools of the State is evidence that the authorities are fully alive to the importance of the education of the children.

GUATEMALA.

STUDY OF ENGLISH MADE COMPULSORY IN THE REPUBLIC.

A copy of the recent decree of Guatemala relating to the compulsory study of the English language in the primary schools of that republic, has been forwarded by Mr. William Heimke, American minister to Guatemala. It is signed by President Manuel Estrada Cabrera, who speaks of the need of the knowledge of English "among the people of Guatemala in their privileged situation in the modern world and through the advantages offered by its Inter-Oceanic Railway."

SCHOOL SUPPLIES.

CHINA.

OPPORTUNITY FOR AMERICAN TEXT-BOOK PUBLISHERS.

In reply to an inquiry from a New York publishing house, Consul Julean H. Arnold, of Amoy, furnishes the following information concerning educational conditions in China and the opportunities for American text-book publishers and manufacturers of school supplies in the Empire:

The field seems to be one of such importance and with so much promise for the future, that it would be to the interest of American text-book publishing houses to send their representatives here to study it for themselves. The sale of school text-books is no exception to the general rule, in that personal representation counts for more than all other methods combined. In the event of American text-book publishing houses sending their representatives to China, the American consuls will assist them toward being properly introduced to the educational authorities, and render them such other assistance as will tend to make their work easier than it would otherwise be.

INTEREST IN MODERN EDUCATION.

The interest in modern education is now sufficiently aroused in China to warrant the belief that the day is not far distant when China will strive to give every village throughout the Empire a modern school, and while the introduction of modern education is still in the embryonic state, the best opportunities present themselves to the foreign text-book publisher to work his way into the market, and by studying the needs of the market as the trend of the new educational system becomes more clearly defined, be in a position to adapt himself to its demands. While it is never to be expected that China will do otherwise than make Chinese the basis of all instructions in its schools, yet the Chinese people are by nature splendid linguists, and as the commercial relations between China and the outside world develop and expand, the interest in English, the commercial language of the Orient, will undoubtedly increase proportionately.

No American text-book publishing house has its representative in the East, nor have I ever heard of such representative visiting the East on business.

SALESROOM FOR TEXT-BOOKS AND OTHER SCHOOL SUPPLIES.

The proposition of establishing a show and salesroom in Shanghai, in charge of a representative bent upon working up a good business, is one which should receive the attention of American text-book publishing houses, but a much better proposition would be that of establishing, in connection with a text-book show and salesroom, a show and salesroom for American school supplies, laboratory apparatus, school musical instruments, dummy rifles, etc. While the market for English text-books will always be a limited one, due to the fact that English will probably never be universally taught, on the other hand, the market for laboratory apparatus and general school supplies should offer no end of inducements. China needs scientific laboratories probably more than any other educational factor, and with the new education the study of the sciences must take a prominent place. It will undoubtedly be many years before China will be able to follow the example of Japan and manufacture the great bulk of the laboratory apparatus and school supplies used in her schools, for naturally, before she can take up the manufacture of these articles, she must know something about them. In the meanwhile there is a splendid field open to foreign concerns handling the laboratory apparatus and school supplies which the new education in China will demand. [The names of educational institutions in Amoy having English departments are on file in the Bureau of Manufactures.]

MEXICO.

SCHOOL ATTENDANCE COMPULSORY IN THE STATE OF VERACRUZ.

Consul William W. Canada supplies the following information concerning the schools and school system of the Mexican State of Veracruz, and the opening which exists for the sale of American schoolbooks, dictionaries, etc.:

Perhaps Governor Teodoro A. Dehesa of this State has done as much as any man in Mexico in the interest of popular education. In the city of Veracruz, as well as at interior points of the State, he has been ably seconded in every instance by the local authorities. School attendance is compulsory, and every youngster of school age found upon the streets during the hours of tuition is immediately taken in charge by an officer and delivered to the principal of the nearest public school.

The educational system in this consular district is controlled by the governor and secretary of state, assisted by a staff of three eminent professors. The immediate supervision of the schools in this vicinity, however, is entrusted to four inspectors of instruction. Aside from these officials there are other persons who exercise great influence in educational matters.

School books, in fact all educational works, including dictionaries, must be purchased by the scholars, and there are probably four or five booksellers doing business in this line in this consular district from whom they may be obtained. Dictionaries of the English language in use here are Funk & Wagnall's Standard, Webster's and Velasquez'. In addition to these works, Webster's common-school dictionaries and Velasquez' school edition are in evidence. It must not be supposed that these works are in general use, for this is by no means the case. School principals, officials, and business men possess books, generally in the Spanish language only, and they are in nearly every instance heavy, voluminous, and bulky works, which are very costly. Translating dictionaries are also used to a very great extent in public offices and business houses, either from French or Spanish into English, but plain, simple English dictionaries are seldom seen outside of private schools or families. Many of the best families here educate their children at home after they have arrived at a certain age.

TEXT-BOOKS MUST BE ADAPTED TO MARKET.

The study of the English language is included in the general programme of education, but the language is not taught to the extent it might be; that is to say, the programme is not strictly adhered to in this instance. In the line of schoolbooks, many are procured from the United States. It should be said, however, that these are not exactly suitable for Mexicans. For instance, arithmetics are defective in view of the fact that the metric system is the only one in use here and is made compulsory by law; geographies, also, are not up to requirements, for the average work published in the United States gives but very little space to what is of first importance here—Mexico, which is almost overlooked, very little being said about it. Finally, there is no English school history of this country on the market, as far as I know. This country presents an excellent field for schoolbooks suitable for the Mexican people, and publishers in this line of English text-books may profit by the suggestions given.

Public instruction being under the authority of the state government, it follows that these officials are the ones to approach for the introduction of educational works on a large scale, of whatever kind or nature they may be. I trust that this plain statement of facts may lead to a clearer understanding by our booksellers as to the needs of this country. A list of names of all influential persons connected in any manner with the educational system of this consular district is forwarded, and any of these persons addressed on the subject under consideration will reply in the most courteous manner. [A list of the names of officials in charge of the educational system of the State of Veracruz is on file in the Bureau of Manufactures.]

PUBLIC LIBRARIES IN BELGIUM.

TRAINING SCHOOLS IN LIEGE FOR EVERY TRADE AND INDUSTRY.

In calling attention to the development of technical institutions in Belgium, Consul H. Abert Johnson writes as follows concerning the establishment of free libraries in Liege in connection with its trade schools:

There is no trade or industry carried on in the Liege district that does not possess its institution for training high-grade workmen. Among these may be cited the schools for mechanical training (école mécanique), a school for gunsmiths, schools for teaching horticulture, carpentry, plumbing, house painting, tailoring, stonecutting, shoemaking, etc.

At the same time that these establishments for technical training were being instituted the communal authorities decided upon the creation of what may be classed as almost indispensable adjuncts to such schools—free public libraries—these libraries serving the double purpose of providing intellectual recreation to the student workman, while at the same time offering him the opportunity of developing to a higher degree the technical training acquired in the schools.

DEVELOPMENT OF PUBLIC LIBRARIES IN LIEGE.

The city of Liege is unquestionably entitled to hold rank as a pioneer among the earliest organizers of popular libraries, as it was in 1724 that the first of such libraries was created in this city. In 1794 this library, already comprising an important collection of books, was moved to the town of Maestricht, being subsequently confiscated by the French Republic and sent to Paris. Nine years later, the French Empire having succeeded the Republic, the books were returned and assigned partly to the city and partly to the lyceum. Thus a new library was formed, which in 1813 comprised 3,866 works and more than 200 manuscripts.

The fall of the French Empire again compromised the existence of this library, and it was not reorganized until half a century later. At this time the collection had lost much of its scientific character and was designated as the " Bibliothèque Populaire du Centre." To-day the collection of this municipal library comprises over 24,000 volumes, 2,800 of these works being on history and geography, especially history of France and Belgium. In the fields of science and arts the catalogue registers a total of some 4,000 works, while the number of publications on literature reaches 4,500.

In order to borrow books from this library it is sufficient to present a legally executed certificate of domicile, one person being allowed a maximum of 4 volumes for a period of 15 days. Up to the year 1905 this library was in a building hardly suited to an institution of this kind, an edifice which had been erected in 1558 by the Prince Bishop George of Bavaria. In the year 1875 a project was drawn up for the erection of an industrial school and library combined, but it was not until 30 years after this period that the collection of books was moved and installed in its present premises, which consists of an up-to-date building in the central part of the town, occupying a superficial area of 162,185 square feet. This building is not used exclusively as a library, the ground floor is given over to an infant school and a maternity hospital, the library occupying the first floor. Complaints are made that the building, as a library, is still somewhat lacking in the way of up-to-date arrangements, and the reading room is somewhat faulty in so far as its supply of light is concerned; still the edifice is far ahead of anything so far existing in this city.

In addition to this Communal Library, there are 4 less important establishments of this character, situated in different sections of the city for the convenience of the inhabitants of these localities, containing something like 23,500 volumes.

In the annual budget of the city the appropriation for popular libraries amounts to about $3,100, which is contributed exclusively by the commune. The libraries are open on Sunday from 9 a. m. to noon, and during the week in the evenings from 7 to 9.

The city, being fully alive to the importance of public libraries, intends to continue the work of extending them as rapidly as possible, and in several of the projects for putting up new school buildings, the designs include a public library as a part of the school itself.

READING PATRONS.

The large number of inhabitants of the place who avail themselves of the opportunities for improvement and study offered by these libraries clearly prove that their establishment on the part of the city was a move in the right direction. During the year 1903, the latest year for which statistics are available, the free public libraries were patronized by 41,874 men and boys and 23,270 women and girls, who used 130,406 volumes.

Those libraries instituted for the convenience of the different quarters of the city seem to be rather more patronized than the communal or central library, which is by far the largest and most important of them all. This circumstance, however, is partially explained from the fact that the main or central library is, for the most part, a collection of scientific and technical works, and finds its largest number of patrons among the adults who are employed in the industrial establishments of the city, while the other libraries, although containing a certain quantity of serious works, comprise a large number of lighter publications of a purely literary character, and their clientele is composed principally from the children frequenting the primary schools.

[Two illustrations of the Bibliotheque Populaire Centrale, one showing the front of the building and the other the main reading room, are on file in the Bureau of Manufactures.]

WESTERN LEARNING IN CHINA.

MISSIONARIES ARE CONSIDERED THE ADVANCE AGENTS OF COMMERCE.

Vice-Consul C. L. L. Williams, of Chefoo, forwards the following report, prepared by Mr. A. W. Gilbert, of that consulate, on western learning in the Chinese Province of Shantung:

It is claimed by some that there are 1,000 government and private schools in the Province of Shantung that teach western branches of learning, but in the absence of official or other reliable statistics this claim can not be verified. The Chinese, however, are showing unusual zeal in acquiring a working knowledge of English, which is gradually becoming the international language of commerce in the Empire, and especially in the coast towns. The Province of Shantung contains 96 districts, in each of which there is at least one elementary school, while some districts have more than one. The intermediary or middle schools in the province number 13.

There is an imperial provincial college at Chefoo, where the French and Japanese languages hitherto held the place of first importance. These will in the future be dropped to second or third rank of importance. There are 10 other higher government institutions in the province devoted especially to western learning. In these schools 1,900 students are enrolled, 63 Chinese teachers are employed, and 9 Japanese, 4 American, and 2 German teachers.

In Chefoo there are 4 private schools for boys and 2 for girls given to western learning, and employing 18 Chinese and 3 foreign teachers. At Chingchowfu is a flourishing sericultural college founded by a Japanese who introduced a variety of Japanese cocoon.

MISSION SCHOOLS AND COLLEGES.

A careful inquiry into the extension of schools for western education in this province reveals the fact that by far the most extensive and effective work is being done by the Protestant missionaries, the most of them being Americans. This work is conducted under the supervision of college graduates, many of them being professional teachers. The schools (American and English) are graded according to the home standards, and thoroughness seems to be the keynote. Probably half of those enrolled pay their own expenses at school and are doing good work. The small schools in the country prepare pupils for the higher schools at the mission stations, which are always located near a principal city, and these in turn prepare students for the colleges and seminaries. With the exception of those who have "picked up" their English, most of the English-speaking clerks and employees come from the mission schools.

There are six mission institutions of higher learning, American and English, located at Tengchow, Hwanghsien, Weihsien, Chingchowfu, Tsinanfu, and Taianfu. A movement is now under way which will unite all these, together with some of the German schools, into Shantung Union University.

In Shantung are 134 mission schools for boys with an enrollment of 2,186 and 40 schools for girls with an enrollment of 835. Of the 220 teachers for these schools, 180 are Chinese and 40 are foreigners. The average salary paid a native missionary teacher for boys is $3 per month, and $2 per month is paid for women teachers. The native teachers in government schools receive $10 to $25 per month, while foreigners receive $100 to $200 per month.

SPECIAL LINES OF EDUCATIONAL WORK.

Aside from the common schools at Chefoo, are the two schools for the deaf (boys and girls); the Chefoo Industrial Mission schools in the silk district to the southwest, engaged in the manufacture of silk lace, etc., the mission buying the product and putting it on the market; the China Inland Mission boys', girls', and primary and kindergarten schools for foreign children; and the French school for foreign boys. A private school for foreign boys is also located at Wei-hai-wei and an embryo American school for foreign children has recently been opened at Hwanghsien.

In this connection, also, should be mentioned the English Baptist museum at Tsinanfu and the Chefoo museum of the American Presbyterian mission. This institution has a very large collection of mounted birds, fish, minerals, and stones, besides seals, wildcats, weasels, rabbits, water buffalo, wild boar, leopards, etc. The daily average attendance is about 300, and, like the Tsinanfu museum, has a chapel attached.

Outside the medical missionaries, there are only two foreign practicing physicians reported in this district. The 14 medical missionaries, with their 6 hospitals and 14 dispensaries, anually treat over 200,000 persons. A union medical college is now in process of construction at Tsinanfu, and is part of the Shantung Union University scheme. This university now has a union college at Weihsien and a union theological seminary at Chingchowfu.

COMMERCIAL FORERUNNER.

The medical branch of missions is probably doing more toward reconciling the Chinese to foreign association than any other agency. In Weihsien, where no foreigner has hitherto been permitted to live, an American medical missionary has recently opened a dispensary. During a recent overland trip to that city, the mention of acquaintance with the missionary invariably put me on a friendly footing. Such contact with their work forces the conclusion that the missionaries are practical forerunners of commercial enterprise. They seldom fail to win the respect and esteem even of those who do not accept their doctrines, and thus unconsciously pave the way for further foreign intercourse.

The haste to make a flattering financial showing on the part of foreigners has been an important factor in delaying commercial intercourse in this country. However, a moderate respect for Chinese customs and laws, a friendly interest in the people as prospective customers, and normal business methods are doing much toward overcoming antipathy to foreign enterprise.

FOREIGN TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

AUSTRIA-HUNGARY.

IMPORTATION OF ADULTERATED BRAN PROHIBITED.

By the decree of March 17 the importation of bran adulterated with mineral substances into Austria-Hungary is prohibited for sanitary reasons. The decree took effect on the day of its promulgation, March 20, 1909.

CHINA.

EXPORT DUTY ON TEA DUST REDUCED.

Consul Samuel L. Gracey, of Foochow, reports, under date of February 9, 1909, that the Commissioner of Imperial Chinese Customs at that port has issued a notification which is greatly appreciated by the tea shippers at Foochow, who may now be able to compete with the India and Ceylon shippers of this article. The notification reads as follows:

The export duty on Foochow tea dust packed in gunny or mat bags is reduced to 0.600 haikwan taels per picul (the present value of a haikwan tael is 62.5 cents; picul=133⅓ pounds).

The old rate of 1.250 haikwan taels per picul will continue to be levied on such tea dust, irrespective of its value, when packed in boxes or chests.

COLOMBIA.

INCREASED IMPORT DUTY ON SALT.

Consul Isaac A. Manning reports, under date of March 2, that the President of Colombia has issued a decree increasing the duty on foreign salt imported through the ports of Buenaventura and Tumaco on the Pacific coast from 20 to 40 cents gold for every 12½ kilograms (kilogram=2.2046 pounds). This is done to protect the salt industry of the Atlantic coast, which is now said to be capable of supplying the domestic demand.

FRANCE.

PARLIAMENT REVISING THE FRENCH TARIFF.

Consul-General Frank H. Mason transmits from Paris the following additional information concerning the revision of the French tariff:

The bill, which had been prepared by the parliamentary commission, was submitted to the Chamber of Deputies, but aroused so much opposition and protest in France and from neighboring countries, notably Great Britain, that the debate on that measure, which had been announced to begin on March 8, was postponed until the close of that month.

Meanwhile the original report of the parliamentary commission was submitted to a committee of revision for the avowed purpose of reconsidering and amending, if thought advisable, various sections against which the most determined opposition had appeared. On Friday, April 2, the French Parliament adjourned over the Easter holidays until May 11, and it is understood that the debate on the tariff revision will be taken up immediately after the reassembling of the Chamber of Deputies on that date.

It has been ascertained that the committee has made in all 288 changes in the original bill (published by the Department of Commerce and Labor as Tariff Series, No. 6 B). Among these changes are the following, which will be of special interest in the United States:

1. The proposed maximum duty of 16 francs ($3.09) per 100 kilos on agricultural machinery is reduced to 12 francs ($2.32), and the proposed minimum rate of 12 francs is reduced to 8 francs ($1.55) per 100 kilos.

2. The proposed new duty on typewriters, which had been fixed at 75 francs ($14.48) as maximum and 50 francs ($9.65) minimum for each machine, has been reduced to 45 francs ($8.68) and 30 francs ($5.79), respectively.

3. The proposed increase of the duty on sewing machines from 50 francs ($9.65) to 75 francs ($14.48) maximum, and from 35 francs ($6.75) to 50 francs ($9.65) per 100 kilos in the minimum schedule, has been abandoned, and the duties on that important class of exports will probably remain unchanged from the present tariff.

So far as has yet been decided, the proposed advance of the present duty on cotton-seed oil from 6 francs ($1.16) per 100 kilos to 25 francs ($4.82) maximum and 14 francs ($2.72) minimum rate has been sustained in the committee, and unless these rates are modified while the bill is under debate in Parliament, or subsequently neutralized by reciprocal negotiations between the two governments, a serious blow will be struck at an important article of import from the United States, which in 1907 exported 6,220,769 gallons of cotton-seed oil to France.

A leading member of the parliamentary commission has stated in a recent interview that the proposed marked increase in so many items of the general (or maximum) schedule is not aimed at the United States, but is recommended because such increase is deemed necessary to put France in a position to treat successfully with other nations. The difference between the present maximum and minimum schedules ranges in some cases from 10 to 15 per cent only and even less. This difference is thought too slight to secure any important concessions from foreign countries. The new tariff as proposed by the commission raises the difference between the general and minimum schedules to about 50 per cent, and is expected to secure for France important advantages in future negotiations.

ITALY.

SUPPLEMENTARY AGREEMENT WITH THE UNITED STATES.

A new commercial agreement, supplementing that of February 8, 1900, was concluded on March 2, between the United States and Italy, providing for the admission of sparkling wines imported from Italy into the United States at the reduced rates authorized by section 3 of the tariff act of July 24, 1897. It also provides that the duty on tedders and mowers imported from the United States into Italy shall not exceed 4 lire per 100 kilos, which is the present conventional rate on such machinery in the Italian tariff. Although the commercial agreement of February 8, 1900, specifies only a limited number of American products as entitled to conventional rates, the Italian Government has been applying the entire conventional tariff to imports from the United States under the most-favored-nation clause of the treaty of commerce and navigation of 1871. The effect of the new agreement, therefore, is not to change the rate under which American tedders and mowers are to be admitted to Italy, but to make that rate binding during the life of the agreement.

The new agreement went into effect upon its proclamation by the President of the United States, April 24, 1909.

PANAMA.

RATES OF DUTY ON CATTLE.

By the law of December 3, 1908, the import duty on male cattle is fixed at $20 per head and on female cattle at $15 per head. These duties apply to both live and dead cattle. Fine cattle for breeding purposes imported from Europe, the United States, or Jamaica are admitted free of duty. The executive is authorized to reduce up to 50 per cent the duty on cattle should the high price of meat of domestic animals justify such action. Imported carcasses are subject to the abattoir tax in addition to the import duty.

In the importation of slaughtered cattle four quarters will be considered as equivalent to a carcass. If carcasses are imported cut up into parts smaller than quarters, 400 pounds of meat will be considered as constituting one carcass, and the duty will be levied on this basis.

SALVADOR.

IMPOSITION OF A TAX ON COMMERCIAL TRAVELERS.

Chargé d'Affaires Frazier reports by cable from San Salvador that a tax of $50 silver per annum is to be imposed on foreign commercial travelers in San Salvador.

SIERRA LEONE.

PATENT MEDICINES CLASSED AS SPIRITS FOR DUTIABLE PURPOSES.

Consul William J. Yerby furnishes the following information relative to a recent ruling which gives a new customs classification to certain brands of patent medicine introduced into Sierra Leone, West Africa:

The supreme court of Sierra Leone has recently decided that all preparations purporting to be medicines containing more than 9 per cent of alcohol shall be considered spirits and subject to a duty of 5 shillings ($1.21) per British imperial gallon.

This ruling came about as a decision in a protest carried to the supreme court of the colony by importers of American medicines. The labels on the bottles containing the medicines in question stated that the preparations contained 22.30 per cent and 42 per cent of alcohol respectively.

The importers have heretofore paid ad valorem duties on these medicines, which happen to be less than the specific duties, and would have continued to do so but for the fact that the labels called the attention of the customs officer to the large per cent of alcohol. The customs officer, however, acknowledged before the court that he would not have been able to detect so large a percentage of alcohol, as indicated by the labels, by use of the hydrometer, nor had he made a test by redistillation, but American medicines bear labels indicating the per cent of alcohol contained in the bottles, and this works a hardship on the importers thereof, as may be seen by the case under consideration.

SPAIN.

DRAWBACK ON TIN PLATE ON EXPORTED TIN CANS.

Minister William M. Collier transmits from Madrid a copy and translation of the royal order dated March 18, providing for the temporary free admission into Spain of tin plate for use in the packing industry, concerning which he writes:

By the terms of the order the import duty on tin plate will be refunded only when it is exported in the form of cans containing canned products within the period of 1 year. The packing industry has within the past 10 years assumed considerable dimensions in the Cantabrian provinces, where this order has caused much popular rejoicing. Its object, as stated in the preamble, is to enable the packers to compete in foreign markets.

SWEDEN.

TARIFF COMMISSION APPOINTED FOR REVISION OF TARIFF.

According to advices received by the Handelsvertragsverein (Association for the Promotion of Commercial Treaties), of Berlin, a tariff commission has been oppointed by the Swedish Government for the purpose of a thorough revision of the tariff in 1910. The commission, which is under the presidency of a bureau chief representing the ministry of finance, consists of two manufacturers, two representatives of the agricultural interests (of whom one is a member of Parliament), one wholesale merchant, and one other official.

SWITZERLAND.

EFFECT OF PURE-FOOD LAW ON SALES OF AMERICAN MEATS.

Consul-General G. R. Gifford, writing from Basel, under date of March 6, describes the provisions of the new pure-food law which is shortly to be put into effect in Switzerland and its possible effect upon the American meat trade with that country. The consul says:

The Swiss Federal Council has now issued a decree fixing the date of July 1, 1909, for the enforcement of the law of the 8th of December, 1905, in regard to traffic in food products, and has at the same time issued the regulations governing their transportation and inspection. These regulations (a copy of which is on file in the Bureau of Manufactures), which for more than three years have been the subject of lively controversy, are of great importance to American exporters of meats to Switzerland. On the whole, they constitute a decided aggravation of the existing situation, though the vigorous opposition of importers of American meats has succeeded in eliminating certain regulations which the sanitary authorities at one time desired to prescribe, especially those requiring the date of packing on boxes of canned meats, the exclusion of American sausage, and the prohibition of the sale of Swiss meats by merchants offering the imported article for sale.

The following are the principal innovations made by the new regulations:

1. The examination at the frontier is more stringent, and each package must be opened.
2. The importer must brand each piece weighing over 2.2 pounds with the word "America."
3. The former certificate of origin will no longer be valid. The official inspector of the country whence the meat is exported must expressly certify, in a document drawn up either in German, French, or Italian, that the meat is sound, fit for human food, and derived from animals of the bovine race, sheep, goats, or swine, which, before and after slaughter, were found to be free from disease, infection, or contagion. The certificate must be legibly filled out and signed by the official inspector in his own handwriting and stamped with his official seal.
4. All preservatives, except salt, sugar, and saltpeter, are forbidden.
5. Sausage, in particular, must contain no meal, potatoes, or borax; nor must they be colored, but the coloring of cheese, butter, margarine, and preserved fruit is expressly authorized.
6. In every place where American meats or lard are sold the fact must be indicated by the poster.
7. Every merchant who wishes to import foreign meats must provide himself with a special permission from the cantonal authorities.
8. A special permission is required for each individual importation of frozen meat.

The principal importers of American meats in Switzerland inform me that the question whether their business can continue after the 1st of July depends upon the manner in which the new law and regulations are enforced, and on the fees which are yet to be determined by the Federal Council. On the whole, they think the trade, while still going on, will diminish in any event, since small dealers will be disinclined to go through so many formalities.

TURKEY.

COUNTRY OF ORIGIN MUST BE INDICATED IN MANIFESTS.

Ambassador John G. A. Leishman transmits a translation of a note addressed by the Turkish Government to the American embassy, requesting that the manifests of articles imported into the Ottoman Empire should bear indications of the country of origin of said goods and their ultimate destination. The note is dated December 6, 1908, and reads as follows:

> From a report of the General Administration of Indirect Imposts it appears that the manifests relative to the articles imported into the Empire indicate only the ports of shipment of the merchandise to which they refer, without containing other indications regarding their place of origin.
>
> As it is important to secure more accurate information concerning the customs statistics of the Empire and the places of origin of the merchandise in question, it has been decided that henceforth the consignees shall be obliged to indicate exactly over their own signatures, on the reverse of the shipping orders and declarations which they may present at the customs, the place of origin, as well as the destination of the merchandise imported.
>
> The enforcement of this measure being calculated to assure the preparation of customs statistics with the desired accuracy, the Ministry of Foreign Affairs hopes that the American embassy, appreciating the advantages which would result for trade, will ask American citizens to conform to this request.

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